

# **Benton County Street Dept Addition**

**1206 SW 14th St, Bentonville, AR 72712**

Issue 1-13-20

**SECTION 00 00 20 - PROJECT DIRECTORY**

**Owner:** Benton County Government  
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Dave Burris, Project Manager

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Engineering:** Miller Engineering  
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**END OF PROJECT DIRECTORY**

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**SECTION 00 00 70 - NOTICE TO BIDDERS**

Sealed bids for the Benton County Road Department Addition, shall be hand-delivered or mailed to:

*Name: Benton County Government  
Attn: Terry Lewis Room 304  
Address: 215 E Central Ave. Lock Box #9, Bentonville, AR 72712*

Bids will be before 2:00 pm on April 14, 2020. Bids will be opened and tabulated in a public meeting at 2:00 pm.

The Project contained herein is known as " Street Dept Addition ". The Project address is located at address Bentonville, AR 72712

**Scope of Services to be performed**

The County and seeks (3) bid Packages to be awarded together, or in individual, the county reserves the right to perform any, and all bid packages.

**Bid Package 1 –**

*Building Pad and dirt work,*

**Bid Package 2 –**

*Concrete foundation, including pit, sump pump, and imbedded steel as indicated in drawings.*

**Bid Package 3 –**

*Metal Building supply and erection, including All exterior walk doors and overhead doors. Including the overhead doors in the existing shop area.*

The contractor(s) bidding the project shall coordinate with Benton County construction team and its subcontractors for scheduling over lapping installations of under slab work.

**Plans and Specifications** can be reviewed at the offices of Burriss Architecture at 820 Tiger Blvd Suite 4 72712. PDF's will be made available at <https://bentoncountyar.gov/accounting/open-bids/>. Sets will also be available at A and B Reprographics Plan room in Bentonville. No partial sets will be issued only complete sets. Cost of hard copies shall be the responsibility of the bidders

The owner reserves the right to reject any and all bids and to waive all informalities in bids. No bids may be withdrawn for a period of thirty (30) days, subsequent to the specified time for receipt of bids.

**END OF SECTION – 00 00 70**

**SECTION 00 10 00 - INSTRUCTIONS TO BIDDERS**

**1. THE WORK**

Benton County Street Dept Addition

All work is described in the plans and specifications. (see Scope of Services to be performed".)

**2. SECURING DOCUMENTS**

Digital copies of the proposed Contract Documents may be obtained from Burriss Architecture offices at 820 Tiger Blvd Suite 4 , Ph (479) 319-6045 between 9:00 a.m. and 4:30 p.m., and upon the conditions set forth in the Notice to Bidders. Plans are held at A and B Reprographics plan room. Hard Copies may be purchased at bidders expense.

**3. BID FORM**

In order to receive consideration, make bids in strict accordance with the following.

- A. Make bids upon the forms provided therefore, properly signed and with all items filled out. Do not change the wording of the bid form, and do not add words to the bid form. Unauthorized conditions, limitations, or provisions attached to the bid will be cause for rejection of the bid. If alterations by erasure or interlinear are made for any reason, explain such erasure or interlinear with a signed statement from the bidder.
- B. No telegraphic bid or telegraphic modification of a bid will be considered. No bids received after the time fixed for receiving them will be considered. Late bids will be returned to the bidder unopened.
- C. Address bids to the Owner, and deliver to the address given in the Notice to Bidders on or before the day and hour set for opening the bids. Enclose each bid in a sealed envelope bearing the title of the Work, the name of the bidder, and the date and hour of the bid opening. Submit only the original signed copy of the bid. It is the sole responsibility of the bidder to see that his bid is received on time.

**4. EXAMINATION OF DOCUMENTS AND SITE OF WORK**

Before submitting a bid, each bidder shall examine the Drawings carefully, shall read the Specifications and all other proposed Contract Documents, Each bidder shall fully inform himself prior to bidding as to existing conditions and limitations under which the Work is to be performed, and shall include in his bid a sum to cover the cost of items necessary to perform the Work as set forth in the proposed Contract Documents. No allowance will be made to a bidder because of lack of such examination or knowledge. The submission of a bid will be considered as conclusive evidence that the bidder has made such examination.

## 5. WITHDRAWAL OF BIDS

- A. A bidder may withdraw his bid, either personally or by written request, at any time prior to the scheduled time for opening bids.
- B. No bidder may withdraw his bid for a period of thirty calendar days after the date set for opening thereof, and bids shall be subject to acceptance by the Owner during this period.

## 6. BID REFUSAL

Owner reserves the right to reject any and all bids and the right to award the bid to any contractor bidding the project whether they be low or not. The Owner reserves the right to waive any irregularities in the bid. The owner has the right to thoroughly investigate each contractor in connection with his previous performance and capabilities in connection with his previous performance in connection with work similar in nature in determining which contractor the project shall be awarded to.

## 7. EXECUTION OF AGREEMENT

- A. The Form of Agreement that the successful bidder will be required to execute is included in the Project Manual.
- B. The bidder to whom the Contract is awarded shall, within fifteen calendar days after notice of award and receipt of Agreement forms from the Owner, sign and deliver required copies to the Architect.
- C. At or prior to delivery of the signed Agreement, the bidder to whom the Contract is awarded shall submit to the Architect those Certificates of Insurance required by the Contract Documents and such Labor and Materials Payment Bonds and Performance Bond as are required by the Owner.
- D. Bonds and Certificates of Insurance shall be approved by the Architect before the successful bidder may proceed with the Work. Failure to provide Bonds or Certificates of Insurance in a form satisfactory to the Architect shall subject the successful bidder to loss of time from the allowable construction period equal to the time of delay in furnishing the required material. Refusal of successful bidder to provide bonds or certificates of insurance that is satisfactory to the Owner shall be cause for disqualification from this project.

## 8. INTERPRETATION OF CONTRACT DOCUMENTS PRIOR TO BIDDING

- A. If any person contemplating submitting a bid for construction of the Work is in doubt as to the true meaning of any part of the proposed Contract Documents, or finds discrepancies in or omissions from any part of the proposed Contract Documents. He must submit to the Architect a request for interpretation thereof not later than **three days** before bids will be opened. The person submitting the request shall be responsible for its prompt delivery. Interpretations on any discrepancies in the plans made solely by the bidder shall be the most restrictive or more costly.
- B. Interpretation or correction of proposed Contract Documents will be made only by Addendum and will be submitted to each plan room, and emailed to each bidder who has requested to be placed on the bidders list. The Owner will not be responsible for any other explanations or interpretations of the proposed Contract Documents.

## 9. CONSTRUCTION TIME AND LIQUIDATED DAMAGES

- A. Time: The Owner expects the project to be Substantially Completed within four (4) months of award of contract. The Contractor may however, enter a number of days in the bid form, which achieves Substantial Completion at an alternate date.
- B. Commencement: It is reasonably expected that a Contract will be awarded and signed within two weeks of bid opening, but no later than 30 days, and that the Work shall commence immediately, but no later than 14 days from date of contract.

## 12. BONDS

- A. A certified check of bid Bond from an approved Surety bond Company in the amount of not less than 5% of the bid shall accompany all proposals. This Bid Bond will guarantee that the bidder will stand in back of his bid for a period of 30 days after the closing time for receipt of bids or forfeit the Bid bond.
- B. The Owner reserves the right to retain the security of all bidders until the successful bidder enters into the Contract or until 30 days after bid opening, whichever is sooner. Other bid security will be returned as soon as practicable. (If any bidder fails to execute a contract for this project, the owner may retain his bid security as liquidated damages but not as a penalty.)
- C. Prior to signing the Contract, the Owner shall require the successful bidder to secure and post a Labor and Materials Payment Bond and a Performance Bond, each in the amount of 100% of the Contract Sum. Such bonds shall be issued by Surety acceptable by the Owner.

## 13. BIDDERS

Each bidder will be responsible for coordinating all Subcontractors, Material suppliers; Utilities etc. required under their scope of work and shall coordinate their activities with the General Contractor and his Superintendent.

## 14. WARRANTY:

It is understood that the entire project will be warranted for a period of one (1) year after the final payment of the project is authorized. In certain areas of the project, additional years or warranty service are called for and will be required as called for.

The Architect has endeavored to call out and use materials in a manner that they can be warranted without any objections of the installer or manufacturer. Should, however, he call out a procedure that is detrimental to the material and the installer or manufacturer will not warranty this method of construction, he shall notify the Architect prior to the bidding so that Addendum can be issued to correct the situation involved.

Should the Architect not be notified, prior to bidding, it will then be the contractor and subcontractor's responsibility to make the necessary corrections, at their own expense, to allow materials and procedures to be warranted for the period of time required.

## **15. GENERAL CONDITIONS**

The American Institute of Architects document A201, General conditions of the Contract for construction, 2017 edition shall apply on this project and are included within these specifications.

## **16. QUALIFICATIONS OF BIDDERS**

The competency and responsibility of Bidders and of their proposed subcontractors will be considered in making the award and the bidder will submit, independently of the proposal, data in regard to their qualifications as a Contractor and including type of work completed, experience, financial status, and a list of proposed subcontractors if requested. Bidders shall show experience in school and related construction. The Owner reserves the right to accept or reject any or all bids.

## **17. DISCREPANCIES:**

Should a bidder find discrepancies in, or omissions from the drawings or documents, or should he be in doubt as to their meaning, he should at once notify the Architect who will send written instructions to all Bidders. Neither Owner nor Architect will be responsible for any oral instructions. All addenda or bulletins issued by the Architect for the instruction of Bidders are to be incorporated by the Bidder in the proposal and will become a part of the Contract Documents. Interpretations on any discrepancies in the plans made solely by the bidder shall be the most restrictive or more costly.

## **18. INSURANCE**

The contractor, before commencing work, shall submit certificates for insurance as outlined in the Supplementary conditions of the Contract for Construction for the Owner's approval and such insurance shall be maintained in force during the life of the contract.

## **19. FEES**

The Contractor and its Subcontractors, Material Suppliers, etc. shall include in their bid all fees required for the project, such as service charges, licenses, certificates, permits, royalties, insurance, inspection, legal fees, tap fees, connection fees, etc., both permanent and temporary. They shall furnish all labor, tools, scaffolding, transportation, supervision, and all other services required by the work called for on the plans and listed herein in general.

## **20. BUILDING PERMITS AND REGULATIONS**

The County shall pay for and procure the general building permit. Each contractor and its subcontractors shall obtain all other applicable and required permits and give notices and comply with all laws, ordinances, rules and regulations applicable to the work.

## **21. Third Party Testing**

The owner shall secure contracts for third party testing. This includes all soils testing, concrete testing, and structural steel testing. The general Contractor will be responsible for coordinating the testing laboratory in a timely manner with the phases of construction.

**END OF SECTION 00 10 00**

SECTION 00 31 00 –BID FORM

TO: **Benton County**

FROM: \_\_\_\_\_  
(Name of Bidder)

\_\_\_\_\_  
(Address of Bidder)

\_\_\_\_\_  
(telephone, fax, email)

**FOR: Benton Country Street Dept Addition**

The undersigned, as Bidder, hereby declares that the only person, or persons interested in the bid as principal or principals, is or are, named herein and that no other person than therein mentioned has any interest in this bid or in the Contract to be entered into; that this bid is made without connection with any other person, company or parties, making a bid, and that it is in all respects fair and in good faith without collusion or fraud.

The Bidder further declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the place where the work is to be done; that he has examined the Drawings and Specifications for the Work and Contractual Documents relative thereto and that he has satisfied himself relative to the Work to be performed.

The Bidder proposes and agrees, if this bid is accepted, to Contract with **Benton County**, of Bentonville, State of Arkansas, the Owner, furnishing thereby all services, labor, and material to complete the construction and described requirements of the Drawings, Specifications, and Contractual Documents.

Receipt of the following Addenda to the Contract Documents is acknowledged:

- Addendum No.\_\_\_\_\_, Dated \_\_\_\_\_;
- Addendum No.\_\_\_\_\_, Dated \_\_\_\_\_;
- Addendum No.\_\_\_\_\_, Dated \_\_\_\_\_;

- a. **BID PROPOSAL:** Bidder agrees to perform all related work of the Plans, Specifications, Addenda and as stated in "Scope of Services to be performed".

**BID PACKAGE 1-** *Building Pad and dirt work,* \_\_\_\_\_ Dollars(\$\_\_\_\_\_).

**BID PACKAGE 2-** *Concrete foundation, including pit, sump pump, and imbedded steel as indicated in drawings.* \_\_\_\_\_ Dollars(\$\_\_\_\_\_).

**BID PACKAGE 3-** *Metal Building supply and erection, including All exterior walk doors and overhead doors. Including the overhead doors in the existing shop area.* \_\_\_\_\_ Dollars(\$\_\_\_\_\_).

**BID PACKAGES 1, 2, and 3 if awarded all together** \_\_\_\_\_ Dollars(\$\_\_\_\_\_).

**Subcontractors:**

The Contractor will utilize the following companies for the indicated work. All major subcontractors (ie. concrete, erection, framing, mechanical, electrical, plumbing...) shall be listed. Include one name only for each trade. The list will be made part of the contract.

SUBCONTRACTOR	CONTRACT AMOUNT
A. _____	
B. _____	
C. _____	
D. _____	
E. _____	
F. _____	

\_\_\_\_\_  
(Initial to confirm compliance)

**COMPLETION DATE:**

The bidder, if awarded the contract, hereby agrees to commence work under this Contract within 14 calendar days of written notice to proceed from the Owner. Bidder shall provide a date for completion of scope below

Date of completion of scope \_\_\_\_\_.

The above bid shall include all labor, materials and/or services required to do the work as well as profit, overhead, bond premium, etc., to totally cover the finished work called for, all in accordance with the Drawings, Specifications, and other Contract Documents.

Bidder agrees that this proposal shall remain valid and may not be withdrawn for a period of thirty (30) calendar days after the scheduled closing time for receiving bids.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informality in the bidding.

Bidder agrees that this bid including Alternates shall be good and may not be withdrawn for a period of 30 calendar days after the schedule closing time for receiving bids.

(SEAL - if by corporation)

Respectfully submitted,

\_\_\_\_\_

Business Address

Bidder

License No.

Date \_\_\_\_\_, 19\_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

**END OF SECTION 00 31 00**

**SECTION 00 50 00 - FORM OF AGREEMENT**

The Form of Agreement shall be American Institute of Architects Document A401, Standard Form of agreement between contractor and subcontractor , 2017 Edition.

**END OF SECTION 00 50 00**

**SECTION 00 70 00 - GENERAL CONDITIONS**

General Conditions of this construction project is the AIA Document A201, General Conditions of the Contract for Construction 2017 Edition. This document can be obtained from Architect if need be.

**END OF SECTION 00 70 00**

## SECTION 01 01 00 - SUMMARY OF WORK

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Section, apply to this Section.

#### 1.2 PROJECT DESCRIPTION

The Project contained herein is known as "" Benton County Street Sept Addition". The Project address is located at 1206 SW 14th St, Bentonville, AR 72712

#### Scope of Services to be performed

The Project consists of site preparation, Concrete foundation, pit and accessory steel, concrete slab, supply and erection of Metal Building Complete with insulation, roof wall panel, exterior walk door and overhead doors. Relocation of existing x-bracing to allow Installation of new OHD in existing shop. The scope shall include coordination with County and other Subcontractors for overlapping scope and installation including but not limited to Electrical, and Plumbing.

#### 1.3 OWNER INITIATED WORK

- A. See General Conditions for owner's right to perform work.

#### 1.4 CONTRACTOR USE OF PREMISES

- A. General: During the construction period the Contractor shall have limited use of the premises for construction operations, including use of the site.
  1. The Contractor's use of the premises is limited only by the Owner's right to perform construction operations with its own forces or to employ separate contractors on portions of the project.
  2. Keep driveways and entrances serving the premises clear and available to the Owner and the Owner's employees at all time. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.

#### 1.5 OWNER OCCUPANCY

- A. Owner Occupancy. The owner will be utilizing the remainder of the site for street department work, area will be provided on site for laydown and staging.
- B. Clean up site daily of miscellaneous refuse and trash. Provide containers for use by workmen.
- C. See Temporary Facilities - Section 01500.
- D. Use of existing facilities by workmen is prohibited.

#### 1.6 BOUNDARIES AND BENCH MARKS (Not applicable at existing buildings)

- A. Employ a professional Civil Engineer or Land Surveyor registered in the State of Arkansas, and approved by the Architect, to confirm or define site boundaries and/or building lines. Erect substantial benchmarks and preserve them throughout the work.

**1.7 UNANTICIPATED CONDITIONS**

- A. If in the course of work the Contractor anticipates and/or discovers conditions and/or materials which are beyond the scope of this contract, and/or which may be deemed unreasonably hazardous, and/or uncovers materials which are legally defined as hazardous, the Contractor is to stop work in the area affected, immediately inform the Architect, and do not proceed until resolved in writing from the Architect.
- B. The Contractor shall make every reasonable effort to inspect for unanticipated conditions, and to anticipate such conditions by prudent project planning and coordination.

**1.8 SUPERINTENDENT**

- A. The General Contractor shall employ a full time on site Project Superintendent assigned full time to this project. Superintendent shall be experience (5 years Min) and qualified in projects of similar size and scope; the owner reserves the right to reject the proposed superintendent.
- B. The Superintendent shall remain with the project until final completion, and shall not be replaced with another individual except by approval of the Owner.

**1.9 WARRANTIES**

- A. General Contractor shall provide a one year unlimited warranty against defects in workmanship and materials, as well as minor adjustments to components of the work, in addition to product warranties provided by manufacturers of individual components. The contractor's warranty shall include labor and material and other incidental costs as necessary to correct any defects. All warranties shall commence at date of Substantial Completion. (See Supplemental General Conditions also).

**1.10 LOCATIONS AND INTERFERENCES**

- A. Locations of equipment and other work are indicated diagrammatically by drawings. Determine exact locations on job, subject to structural conditions, work of other Contractors, and access requirements of installation and maintenance and to approval of A/E. Provide necessary material and labor as needed to coordinate with other work and as needed for complete operational system, and other components of which not all may be exactly shown on the drawings.
- B. Study and become familiar with contract drawings of other trades and in particular the general construction plans and details to obtain necessary information for figuring installation. Cooperate with other workmen and install work to avoid interference with their work. Minor deviations, not affecting design characteristics, performance or space limitations may be permitted if reviewed by A/E prior to installation.
- C. Installation of any pipe, apparatus, appliance or other item which interferes with proper placement of other work as indicated on drawings, specified, or required, shall be removed, relocated and reconnected, without cause for change in the contract amount. Coordination of trades is the responsibility of the General Contractor. See General Conditions for additional coordination responsibilities.

**1.11 MINIMUM REQUIREMENTS AND STANDARDS**

- A. It is the intent of this Contract that a completed and fully operational product be delivered by the Contractor as required by the General Conditions. It is the intent of the documents for all indicated equipment and components to be powered, connected, attached, supported, piped, wired, and otherwise functional as necessary to meet manufacturer's recommended installation requirements, and industry standards. The documents are not intended to necessarily show detailed fabrication

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and installation instructions, nor to show every distinct part and component and their exact location.

- B. Minimum Standards: Where supportive details and components are not specifically indicated, but required for a complete and proper installation, the Contractor shall refer to the manufacturer's recommendations and installation instructions, and to industry standards for installation of the component or system. See Section 01095 Reference Standards and Definitions.

**END OF SECTION 01 01 00**

**SECTION 01 02 70 - APPLICATIONS FOR PAYMENT**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section specifies administrative and procedural requirements governing Contractor's Applications for Payment.
  - 1. Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule, Submittal Schedule, and List of Subcontracts.
- B. Related Sections: The following Sections contain requirements that relate to this Section.
  - 1. Schedules: The Contractor's Construction Schedule and Submittal Schedule are specified in Division 1 Section "Submittals."

**1.3 SCHEDULE OF VALUES**

- A. Coordination: The General Contractor shall coordinate preparation of its Schedule of Values for each part of the Work with preparation of the Contractors' Construction Schedule.
  - 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
    - a. Contractor's Construction Schedule.
    - b. Application for Payment forms, including Continuation Sheets.
    - c. List of subcontractors.
    - d. Schedule of allowances.
    - e. Schedule of alternates.
    - f. List of products.
    - g. List of principal suppliers and fabricators.
    - h. Schedule of submittals.
  - 2. Submit the Schedule of Values to the Architect at the earliest possible date but no later than 7 days before the date scheduled for submittal of the initial Applications for Payment.
  - 3. Subschedules: Where Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish the format for the Schedule of Values.
  - 1. Identification: Include the following Project identification on the Schedule of Values:
    - a. Project name and location.
    - b. Name of the Architect.
    - c. Project number.
    - d. Contractor's name and address.
    - e. Date of submittal.

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
  - a. Related Specification Section or Division.
  - b. Description of Work.
  - c. Name of subcontractor.
  - d. Name of manufacturer or fabricator.
  - e. Name of supplier.
  - f. Change Orders (numbers) that affect value.
  - g. Dollar value.
  - h. Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
3. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports.
4. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed.
  - a. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing, if required.
6. Unit-Cost Allowances: Show the line-item value of unit-cost allowances, as a product of the unit cost, multiplied by the measured quantity. Estimate quantities from the best indication in the Contract Documents.
7. Margins of Cost: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
  - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.
8. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

#### **1.4 APPLICATIONS FOR PAYMENT**

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner.
  1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.
- B. Payment-Application Times: The date for each progress payment is the 15th day of each month. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends 15 days prior to the date for each progress payment.
- C. Payment-Application Forms: Use AIA Document G702 and Continuation Sheets G703 as the form for Applications for Payment.

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- D. Payment-Application Retainage: The Owner shall retain ten (10%) percent of the amount of Total Completed and Stored of each Payment Application until final completion and acceptance of all work covered by the contract.
- E. Application Preparation: Complete every entry on the form. Include notarization and execution by a person authorized to sign legal documents on behalf of the Contractor. The Architect will return incomplete applications without action.
1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
  2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- F. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to the Architect by a method ensuring receipt within 24 hours. One copy shall be complete, including waivers of lien and similar attachments, when required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Architect.
- G. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of mechanics liens from prime contractors, subcontractors, sub-subcontractors and suppliers for the construction period covered by the previous application.
1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
  2. When an application shows completion of an item, submit final or full waivers.
  3. The Owner reserves the right to designate which entities involved in the Work must submit waivers.
  4. Waiver Delays: Submit each Application for Payment with the Contractor's waiver of mechanics lien for the period of construction covered by the application.
    - a. Submit final Applications for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
  5. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to the Owner.
- H. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, include the following:
1. List of subcontractors.
  2. List of principal suppliers and fabricators.
  3. Schedule of Values.
  4. Schedule of unit prices.
  5. List of Contractor's staff assignments.
  6. Copies of building permits.
  7. Initial progress report.
  8. Report of preconstruction meeting.
  9. Certificates of insurance and insurance policies.
  10. Performance and payment bonds.
- I. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.

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1. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
  2. Administrative actions and submittals that shall precede or coincide with this application include:
    - a. Occupancy permits and similar approvals.
    - b. Warranties (guarantees) and maintenance agreements.
    - c. Test/adjust/balance records.
    - d. Maintenance instructions.
    - e. Changeover information related to Owner's occupancy, use, operation, and maintenance.
    - f. Final cleaning.
    - g. List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion.
- J. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:
1. Completion of Project closeout requirements.
  2. Completion of items specified for completion after Substantial Completion.
  3. Ensure that unsettled claims will be settled.
  4. Ensure that incomplete Work is not accepted and will be completed without undue delay.
  5. Transmittal of required Project construction records to the Owner.
  6. Removal of temporary facilities and services.
  7. Removal of surplus materials, rubbish, and similar elements.
  8. Change of door locks to Owner's access.

**PART 2 - PRODUCTS** (Not Applicable)

**PART 3 - EXECUTION** (Not Applicable)

**END OF SECTION 01 02 70**

**SECTION 01 03 50 - MODIFICATION PROCEDURES  
PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section specifies administrative and procedural requirements for handling and processing contract modifications.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 1 Section "Allowances" for procedural requirements governing the handling and processing of allowances.
  - 2. Division 1 Section "Unit Prices" for administrative requirements governing use of unit prices.
  - 3. Division 1 Section "Submittals" for requirements for the Contractor's Construction Schedule.
  - 4. Division 1 Section "Applications for Payment" for administrative procedures governing Applications for Payment.
  - 5. Division 1 Section "Product Substitutions" for administrative procedures for handling requests for substitutions made after award of the Contract.

**1.3 MINOR CHANGES IN THE WORK**

- A. Supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or Contract Time, on AIA Form G710, Architect's Supplemental Instructions (ASI) will be issued by the Architect.
  - 1. The Contractor is responsible for notifying the Architect, in writing, within ten (10) working days that he disagrees with the Architect's Instruction and costs are involved.

**1.4 PROPOSAL REQUEST CHANGES:**

- A. Owner-Initiated Proposal Requests: Proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time will be issued by the Architect, with a detailed description of the Proposed Change and supplemental or revised Drawings and Specifications.
  - 1. Proposal requests issued by the Architect are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
  - 2. Within 7 days of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the Architect for the Owner's review.
    - a. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
    - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

- c. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.
- B. Contractor-Initiated Proposals: When latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Architect.
  - 1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
  - 2. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
  - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
  - 4. Comply with requirements in Section "Product Substitutions" if the proposed change requires substitution of one product or system for a product or system specified.
- C. Proposal Request Form: Use AIA Document G709 for Change Order Proposal Requests.

### **1.5 ALLOWANCES**

- A. Allowance Adjustment: For allowance-cost adjustment, base each Proposal Request for Change on the difference between the actual purchase amount and the allowance, multiplied by the final measurement of work-in-place. Where applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
  - 1. Submit substantiation of a change in scope of work claimed in the Change Orders related to unit-cost allowances.
  - 2. The Owner reserves the right to establish the actual quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or the Contractor's handling, labor, installation, overhead, and profit. Submit claims within ten (10) working days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. The Owner will reject claims submitted later than ten (10) days.
  - 1. Do not include the Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in Contract Documents.
  - 2. No change to the Contractor's indirect expense is permitted for selection of higher or lower-priced materials or systems of the same scope and nature as originally indicated.

### **1.6 CONSTRUCTION CHANGE DIRECTIVE**

- A. Construction Change Directive: When the Owner and the Contractor disagree on the terms of a Proposal Request, the Architect may issue a Construction Change Directive on AIA Form G714. The Construction Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
  - 1. The Construction Change Directive contains a complete description of the change in the Work. It also designates the method to be followed to determine change in the Contract Sum or Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

**Benton Country Street Dept Addition**

1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

**1.7 CHANGE ORDER PROCEDURES**

- A. Upon the Owner's approval of a Proposal Request, the Architect will issue a Change Order for signatures of the Owner and the Contractor on AIA Form G701.

**PART 2 - PRODUCTS**

- A. Submit a complete itemized list of all material and labor in each proposal for change items.
  1. See Example below:

**SAMPLE PRICING SHEET**

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Project:	Church Addition
Location:	Rogers, Arkansas
Date:	June 1,2002
Labor Rate:	\$27.00

---

Material Units	Unit Measure	Material Per Unit	Man Hours Per Unit	Total Man Hrs.	Material Total
6" Tee	1 each	\$45.00	2.000	2.0	\$ 45.00
less 6" ell	1 each	\$30.00	0.000	0.0	30.00
6" sch 40 pipe	15 feet	\$10.43	0.253	3.8	156.45
6" cap	1 each	\$11.00	1.500	1.5	11.00
6" hanger	1 each	\$12.00	0.400	0.4	12.00
4" saddle weld	1 each	\$0.00	1.200	1.2	0.00
4" sch 40	18 feet	\$4.44	0.183	3.3	79.92
4" ell	3 each	\$13.39	2.000	6.0	40.17
4" hanger	3 each	\$8.00	0.300	0.9	24.00
4" weld	1 each	\$3.00	1.000	1.0	3.00
1-1/2" cond sch 80	21 feet	\$1.63	0.080	1.7	34.23
1-1/2" ell	3 each	\$4.00	0.400	1.2	12.00
1-1/2" tee	1 each	\$5.00	0.600	0.6	5.00
1-1/2" weld	1 each	\$3.00	0.400	0.4	3.00
3/4" F & T trap	1 each	\$73.00	0.500	0.5	73.00
3/4" strainer	1 each	\$12.00	0.500	0.5	12.00
3/4" XH nipples	4 each	\$7.70	0.100	0.4	30.80
3/4" unions	2 each	\$3.18	0.300	0.6	6.36
3/4" cap	1 each	\$0.65	0.100	0.1	.65
3/4" pipe sch 80	10 feet	\$0.72	0.040	0.4	7.20
3/4" tee	1 each	\$1.50	0.300	0.3	1.50
3/4" ell	3 each	\$0.95	0.200	0.6	2.85
3/4" hange	2 ech	\$2.50	0.200	<u>0.4</u>	<u>5.00</u>
SUBTOTAL				28.4	\$618.47
SALES TAX (If applicable) 6.125%					37.88
LABOR 28.4 MH \$27.00					766.80
SUBTOTAL					\$1,423.15
10% SUBCONTRACTOR OH&P					142.32
10% GENERAL CONTRACTORS OH&P					142.32
TOTAL					\$1,707.79

**PART 3 - EXECUTION (Not Applicable)**

**END OF SECTION 01 03 50**

**SECTION 01 04 00 - COORDINATION**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:
  - 1. General project coordination procedures.
  - 2. Conservation.
  - 3. Coordination Drawings.
  - 4. Administrative and supervisory personnel.
  - 5. Cleaning and protection.

**1.3 COORDINATION**

- A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
  - 3. Make provisions to accommodate items scheduled for later installation.
- B. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
  - 1. Prepare similar memoranda for the Owner and separate contractors where coordination of their work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
  - 1. Preparation of schedules.
  - 2. Installation and removal of temporary facilities.
  - 3. Delivery and processing of submittals.
  - 4. Progress meetings.
  - 5. Project closeout activities.
- D. Conservation: Coordinate construction operations to assure that operations are carried out with consideration given to conservation of energy, water, and materials.

1. Salvage materials and equipment involved in performance of, but not actually incorporated in the Work.

**1.4 SUBMITTALS**

- A. Staff Names: Within 15 days of commencement of construction operations, submit a list of the Contractor's principal staff assignments, including the superintendent and other personnel in attendance at the Project Site. Identify individuals and their duties and responsibilities. List their addresses and telephone numbers.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION**

**3.1 GENERAL COORDINATION PROVISIONS**

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

**3.2 CLEANING AND PROTECTION**

- A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at Substantial Completion.
- B. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- C. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

**END OF SECTION 01 04 00**

## **SECTION 01 04 50 - CUTTING AND PATCHING**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for cutting and patching.
- B. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
  - 1. Division 1 Section "Coordination" for procedures for coordinating cutting and patching with other construction activities.
  - 2. Division 2 Section "Selective Demolition" for demolition of selected portions of the building for alterations.
  - 3. Division 16 Requirements of this Section apply to mechanical and electrical installations. Refer to Divisions 15 and 16 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

#### **1.3 SUBMITTALS**

- A. Cutting and Patching Proposal: Where approval of procedures for cutting and patching is required before proceeding, submit a proposal describing procedures well in advance of the time cutting and patching will be performed and request approval to proceed. Include the following information, as applicable, in the proposal:
  - 1. Describe the extent of cutting and patching required. Show how it will be performed and indicate why it cannot be avoided.
  - 2. Describe anticipated results in terms of changes to existing construction. Include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.
  - 3. List products to be used and firms or entities that will perform Work.
  - 4. Indicate dates when cutting and patching will be performed.
  - 5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.
  - 6. Where cutting and patching involves adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with the original structure.
  - 7. Approval by the Architect to proceed with cutting and patching does not waive the Architect's right to later require complete removal and replacement of unsatisfactory work.

#### **1.4 QUALITY ASSURANCE**

- A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.
  - 1. Obtain approval of the cutting and patching proposal before cutting and patching the following structural elements:

- a. Shoring, bracing, and sheeting.
  - b. lintels.
  - i. Equipment supports.
  - j. Piping, ductwork, vessels, and equipment.
- B. Operational and Safety Limitations: Do not cut and patch operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safety.
- 1. Obtain approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:
    - a. Primary operational systems and equipment.
    - b. Air or smoke barriers.
    - c. Water, moisture, or vapor barriers.
    - d. Membranes and flashings.
    - e. Noise and vibration control elements and systems.
    - g. Control systems.
    - h. Communication systems.
    - i. Conveying systems.
    - j. Electrical wiring systems.
- C. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patched in a visually unsatisfactory manner.
- 1. If possible retain the original Installer or fabricator to cut and patch the exposed Work listed below. If it is impossible to engage the original Installer or fabricator, engage another recognized experienced and specialized firm.
    - a. Processed concrete finishes.
    - b. Stonework and stone masonry.
    - c. Ornamental metal.
    - d. Matched-veneer woodwork.
    - e. Preformed metal panels.
    - f. Window wall system.
    - g. Exterior finish and insulation system.
    - h. Acoustical ceilings.
    - i. Finished wood flooring.
    - j. Tile floor and walls.
    - k. Carpeting.
    - l. Aggregate wall coating.
    - m. Wall covering.
    - n. Roofing systems.
    - o. HVAC enclosures, cabinets, or covers.

## **1.5 WARRANTY**

- A. Existing Warranties: Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void any warranties required or existing.

## **PART 2 - PRODUCTS**

**2.1 MATERIALS, GENERAL**

- A. Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible if identical materials are unavailable or cannot be used. Use materials whose installed performance will equal or surpass that of existing materials.

**PART 3 - EXECUTION**

**3.1 INSPECTION**

- A. Before cutting existing surface, Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.

**3.2 PREPARATION**

- A. Temporary Support: Provide temporary support of work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Avoid cutting existing pipe, conduit, or ductwork serving the building but scheduled to be removed or relocated until provisions have been made to bypass them.

**3.3 PERFORMANCE**

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
  - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.
  - 1. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
  - 4. Comply with requirements of applicable Division 2 Sections where cutting and patching requires excavating and backfilling.
  - 5. Where services are required to be removed, relocated, or abandoned, by-pass utility services, such as pipe or conduit, before cutting. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or

conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.

- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
  - 1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
  - 2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
  - 3. Where removing walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.
  - 4. Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

### **3.4 CLEANING**

- A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

**END OF SECTION 01 04 50**

**SECTION 01 09 50 - REFERENCE STANDARDS AND DEFINITIONS**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 DEFINITIONS**

- A. General: Basic contract definitions are included in the Conditions of the Contract.
- B. "Indicated": The term "indicated" (and other similar references as "shown"; "noted"; "scheduled"; "specified", etc.) refers to graphic representations, notes, or schedules on the Drawings, other paragraphs or schedules in the Specifications, and similar requirements in the Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help the reader locate the reference; no limitation on location is intended. When related information is not specifically "indicated" in other parts of the contract, even when reference is made to other "indicated" information, the Contractor is obligated to at least provide work and material as necessary to complete the component, and/or as per industry standards, and/or as required by code ordinance and local standards, and/or as recommended by manufacturer/supplier of the item and related items, and/or shall make request for additional information from the Architect to clarify the specification requirements.
- C. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by the Architect, requested by the Architect, and similar phrases.
- D. "Approved": The term "approved," shall mean "no exceptions taken," when used in conjunction with the Architect's action on the Contractor's submittals, applications, and requests, is observed to be in general compliance with the contract and limited to the Architect's duties and responsibilities as stated in the Conditions of the Contract.
- E. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": The term "furnish" means to supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": The term "install" describes operations at the Project site including the actual unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.
- I. "Project site" is the space available to the Contractor for performing construction activities, either exclusively or in conjunction with others performing work as part of the Project. The extent of the Project site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
- J. "Equal" shall mean reasonably and/or exactly identical to or better. The Architect shall be the sole judge of compliance to this definition, in regard to submittals, substitutions, and work performed and proposed.

- K. "Similar to" shall mean the same as equal.
- L. "Finish or Finishes": The term "finish" means to furnish items or components that have a factory applied finish surface or field applied. Also, when term is missing or finish is not specified, the intend of the documents is for the contractor to provide a product with a finish **or may require clarification by the architect**. Unless the item(s), component(s), products or surfaces are noted as "unfinished", than the contractor is expected to furnish and install the specified item(s), component(s), product(s) or surfaces with a finish applied.

### 1.3 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 16-division format and "MasterFormat" numbering system.
- B. Specification Content: These Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  - 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words shall be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
  - 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.
    - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

### 1.4 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with the standards in effect as of the date of the Contract Documents.
- C. Conflicting Requirements: Where compliance with two (2) or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different but apparently equal to the Architect for a decision before proceeding.
  - 1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Architect for a decision before proceeding.

- D. Copies of Standards: Each entity engaged in construction on the Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
  - 1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source and make them available on request.
- E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards-generating organization, authorities having jurisdiction, or other entity applicable to the context of the text provision. Refer to Gale Research Inc.'s "Encyclopedia of Associations," which is available in most libraries.
- F. A list of Trade Names and Titles of General Standards is available from the Architect upon request.

**1.5 GOVERNING REGULATIONS AND AUTHORITIES**

- A. Copies of Regulations: Obtain copies of the following regulations and retain at the Project site to be available for reference by parties who have a reasonable need.

**1.6 SUBMITTALS**

- A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

**PART 2 - PRODUCTS** (Not Applicable)

**PART 3 - EXECUTION** (Not Applicable)

**END OF SECTION 01 09 50**

**SECTION 01 20 00 - PROJECT MEETINGS**  
**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section specifies administrative and procedural requirements for project meetings, including, but not limited to, the following:
  - 1. Preconstruction conferences.
  - 2. Progress meetings.
  - 3. Coordination meetings.

**1.3 PRECONSTRUCTION CONFERENCE**

- A. Schedule a preconstruction conference before starting construction, at a time convenient to the Owner and the Architect, but no later than 15 days after execution of the Agreement. Hold the conference at the Project Site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
- B. Attendees: Authorized representatives of the Owner, Architect, and their consultants; the Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Discuss items of significance that could affect progress, including the following:
  - 1. Critical work sequencing.
  - 2. Designation of responsible personnel.
  - 3. Procedures for processing field decisions and Change Orders.
  - 4. Procedures for processing Applications for Payment.
  - 5. Submittal of Shop Drawings, Product Data, and Samples.
  - 6. Preparation of record documents.
  - 7. Use of the premises.
  - 8. Parking availability.
  - 9. Office, work, and storage areas.
  - 10. Equipment deliveries and priorities.
  - 11. Safety procedures.
  - 12. First aid.
  - 13. Security.
  - 14. Housekeeping.
  - 15. Working hours.

**1.4 PREINSTALLATION CONFERENCES N/A**

**1.5 PROGRESS MEETINGS**

- A. The Contractor is to prepare an agenda and conduct progress meetings at the Project Site at regular intervals. Notify the Owner and the Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request. The Contractor is responsible for taking minutes and distributing to each attendee.
- B. Attendees: In addition to representatives of the Owner and the Architect, each subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.
  - 1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time.
  - 2. Review the present and future needs of each entity present, including the following:
    - a. Interface requirements.
    - b. Time.
    - c. Sequences.
    - d. Status of submittals.
    - e. Deliveries.
    - f. Off-site fabrication problems.
    - g. Access.
    - h. Site utilization.
    - i. Temporary facilities and services.
    - j. Hours of work.
    - k. Hazards and risks.
    - l. Housekeeping.
    - m. Quality and work standards.
    - n. Architectural Supplemental Instructions.
    - o. Proposal Requests.
    - p. Change Orders.
    - q. Documentation of information for payment requests.
- D. Reporting: No later than seven (7) days after each meeting, distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
  - 1. Schedule Updating: Revise the Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

**1.6 COORDINATION MEETINGS**

- A. Conduct project coordination meetings at regular intervals convenient for all parties involved. Project coordination meetings are in addition to specific meetings held for other purposes, such as regular progress meetings and special preinstallation meetings.

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- B. Request representation at each meeting by every party currently involved in coordination or planning for the construction activities involved.
- C. Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

**PART 2 - PRODUCTS** (Not Applicable)

**PART 3 - EXECUTION** (Not Applicable)

**END OF SECTION 01 20 00**

## SECTION 01 30 00 - SUBMITTALS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including;
  - 1. Contractor's construction schedule.
  - 2. Daily construction reports.
  - 3. Shop Drawings.
  - 4. Product Data.
  - 5. Samples.
- B. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
  - 1. Applications for payment.
  - 2. Insurance certificates.
  - 3. List of Subcontractors.
- C. The Schedule of Values submittal is included in Section "Applications for Payment."
- D. Inspection and test reports are included in Section "Quality Control Services."
- E. Copies:
  - 1. Drawings: Provide 1 (one) reproducible and 2 (two) copies.
  - 2. Product Data: Provide 6 (six) copies.
  - 3. Samples: Provide (2) two sets.
- F. Review Time:
  - 1. Allow a maximum of three (3) weeks from receipt of complete and final submission for return of same. Resubmittals shall allow two (2) weeks for review and return.
  - 2. The Architect will make every effort to expedite reviews and will return submittals as soon as reasonably possible. However, the Contractor shall not base construction schedules upon anything less than a 3 week submittal review period.
  - 3. Special conferences can be arranged upon request in order to expedite a submittal due to circumstances beyond control of the Contractor, and when agreed to by the Architect as reasonable and necessary.

#### 1.2 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
  - 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.

- a. The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received, and will inform Contractor of such requirement.
3. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
  - a. Allow two weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Architect will promptly advise the Contractor when a submittal being processed must be delayed for coordination.
  - b. If an intermediate submittal is necessary, process the same as the initial submittal.
  - c. Allow two weeks for reprocessing each submittal.
  - d. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.
- B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
  1. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
  2. Include the following information on the label for processing and recording action taken.
    - a. Project name.
    - b. Date.
    - c. Name and address of Architect.
    - d. Name and address of Contractor.
    - e. Name and address of subcontractor.
    - f. Name and address of supplier.
    - g. Name of manufacturer.
    - h. Number and title of appropriate Specification Section.
    - i. Drawing number and detail references, as appropriate.
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.

### **1.3 CONTRACTOR'S CONSTRUCTION SCHEDULE**

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar- chart type Contractor's construction schedule or alternate method approved by Architect. Submit within 30 days of the date established for "Commencement of the Work".
  1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values".
  2. Within each time bar indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.
  3. Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.
- B. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

### **1.4 SUBMITTAL SCHEDULE**

- A. After development and acceptance of the Contractor's construction schedule, prepare a complete schedule of submittals. Submit the schedule within 10 days of the date required for establishment of the Contractor's construction schedule.
  - 1. Coordinate submittal schedule with the list of subcontracts, schedule of values and the list of products as well as the Contractor's construction schedule.
  - 2. Prepare the schedule in chronological order; include submittals required during the first 90 days of construction. Provide the following information:
    - a. Scheduled date for the first submittal.
    - b. Related Section number.
    - c. Submittal category.
    - d. Name of subcontractor.
    - e. Description of the part of the Work covered.
    - f. Scheduled date for resubmittal
    - g. Scheduled date the Architect's final release or approval.
- B. Distribution: Following response to initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.
  - 1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
- C. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

## **1.5 FIELD DOCUMENTS**

- A. Only shop drawings and submittals which have the Architect's and General Contractor's review stamps, marked for release/review (see paragraph 1.9) shall be used for fabrication, ordering, and for field installations.

## **1.6 SHOP DRAWINGS**

- A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings. Shop Drawings marked "NOT FOR CONSTRUCTION" or "FOR APPROVAL ONLY" or any other disclaimer type marks by the Supplier, Subcontractor, Manufacturer, or Contractor shall be rejected and sent back for resubmittal.
- B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following information:
  - 1. Dimensions.
  - 2. Identification of products and materials included.
  - 3. Compliance with specified standards.
  - 4. Notation of coordination requirements.
  - 5. Notation of dimensions established by field measurement.
  - 6. Sheet Size: Except for templates, patterns and similar full- size Drawings, submit Shop Drawings on sheets at least 8-1/2" x 11" but no larger than 24" x 36".
  - 7. Submittal: Submit one correctable translucent reproducible print and three blue- or black-line prints for the Architect's review; the reproducible print will be returned.
    - a. One of the prints returned shall be marked-up and maintained as a "Record Document".

8. Do not use Shop Drawings without an appropriate final stamp indicating action taken in the field for construction of the Project.

### **1.7 PRODUCT DATA**

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."
  1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
    - a. Manufacturer's printed recommendations.
    - b. Compliance with recognized trade association standards.
    - c. Compliance with recognized testing agency standards.
    - d. Notation of dimensions verified by field measurement.
  2. Submittals: Submit 4 copies of each required submittal; submit 5 copies where required for maintenance manuals. The Architect will retain two, and will return the other marked with action taken and corrections or modifications required.
    - a. Do not permit use of unmarked copies of Product Data in connection with construction.

### **1.8 SAMPLES**

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
  1. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits of the variations.

### **1.9 ARCHITECT'S ACTION**

- A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each submittal, mark to indicate action taken, and return promptly.
  1. Compliance with specified characteristics is the Contractor's responsibility.
- B. Action Stamp: The Architect will stamp each submittal with a uniform, self explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:
  1. Final Unrestricted Release: Where submittals are marked "Reviewed," that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
  2. Final-But-Restricted Release: When submittals are marked "Make Corrections Noted," that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
  3. Returned for Resubmittal: When submittal is marked "Revise and Resubmit, "Not In Conformance," do not proceed with that part of the Work covered by the submittal, including

purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay and repeat if necessary to obtain a different action mark.

- a. Do not permit submittals marked "Revise and Resubmit," "Not In Conformance", or for unmarked submittals, to be used at the Project site, or elsewhere where Work is in progress.

**PART 2 - PRODUCTS** (Not Applicable).

**PART 3 - EXECUTION** (Not Applicable).

**END OF SECTION 01 30 00**

**SECTION 01 40 00 - QUALITY CONTROL**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes administrative responsibilities and procedural requirements for quality-control services.
- B. Quality-control services include inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by Architect.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.

**1.3 RESPONSIBILITIES**

- A. Contractor Responsibilities: Unless otherwise indicated as the responsibility of another identified entity, Contractor shall provide inspections, tests, and other quality-control services specified elsewhere in the Contract Documents and required by authorities having jurisdiction. Costs for these services are included in the Contract Sum.
  - 1. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Contractor's responsibility, the Contractor shall employ and pay a qualified independent testing agency to perform quality-control services. Costs for these services are included in the Contract Sum.
  - 2. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Owner's responsibility, the Owner will employ and pay a qualified independent testing agency to perform those services.
  - 3. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Owner's responsibility, the Owner will engage the services of a qualified independent testing agency to perform those services. Payment for these services will be made from the Inspection and Testing Allowance, as authorized by Change Orders.
    - a. Where the Owner has engaged a testing agency for testing and inspecting part of the Work, and the Contractor is also required to engage an entity for the same or related element, the Contractor shall not employ the entity engaged by the Owner, unless agreed to in writing by the Owner.
- B. Retesting: The Contractor is responsible for retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether the original test was Contractor's responsibility.
  - 1. The cost of retesting construction, revised or replaced by the Contractor, is the Contractor's responsibility where required tests performed on original construction indicated noncompliance with Contract Document requirements.

- C. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:
1. Provide access to the Work.
  2. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
  3. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
  4. Provide facilities for storage and curing of test samples.
  5. Deliver samples to testing laboratories.
  6. Provide the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
  7. Provide security and protection of samples and test equipment at the Project Site.
- D. Duties of the Testing Agency: The independent agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with the Architect and the Contractor in performance of the agency's duties. The testing agency shall provide qualified personnel to perform required inspections and tests.
1. The agency shall notify the Architect and the Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  2. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
  3. The agency shall not perform any duties of the Contractor.
- E. Coordination: Coordinate the sequence of activities to accommodate required services with a minimum of delay. Coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
1. The Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities.

#### **1.4 SUBMITTALS**

- A. Unless the Contractor is responsible for this service, the independent testing agency shall submit a certified written report, in duplicate, of each inspection, test, or similar service to the Architect. If the Contractor is responsible for the service, submit a certified written report, in duplicate, of each inspection, test, or similar service through the Contractor.
1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
  2. Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:
    - a. Date of issue.
    - b. Project title and number.
    - c. Name, address, and telephone number of testing agency.
    - d. Dates and locations of samples and tests or inspections.
    - e. Names of individuals making the inspection or test.
    - f. Designation of the Work and test method.
    - g. Identification of product and Specification Section.
    - h. Complete inspection or test data.
    - i. Test results and an interpretation of test results.
    - j. Ambient conditions at the time of sample taking and testing.

- k. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.
- l. Name and signature of laboratory inspector.
- m. Recommendations on retesting.

**1.5 QUALITY ASSURANCE**

- A. Qualifications for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, that are prequalified as complying with the American Council of Independent Laboratories' "Recommended Requirements for Independent Laboratory Qualification" and that specialize in the types of inspections and tests to be performed.
  - 1. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the state where the Project is located.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION**

**3.1 REPAIR AND PROTECTION**

- A. General: Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes. Comply with Contract Document requirements for Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities, and protect repaired construction.
- C. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.

**END OF SECTION 01 40 00**

**SECTION 01 60 00 - MATERIALS AND EQUIPMENT**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements governing the Contractor's selection of products for use in the Project.
- B. Administrative requirements for "Submittals" of the Contractor's Construction Schedule and the Submittal Schedule are specified under Section "Submittals."
- C. Administrative procedures for handling requests for substitutions made after award of the Contract are included under Section "Product Substitutions."
- D. Material and equipment installed under this contract shall be first class quality, new, unused, and without change.
- E. The intent of these specifications is to allow ample opportunity for Contractor to use his ingenuity and abilities to perform the work to his and the Owner's best advantage, and to permit maximum competition in bidding on standards of materials and equipment required.

**1.3 DEFINITIONS**

- A. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms are self-explanatory and have well-recognized meanings in the construction industry.
  - 1. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
    - a. "Named Products" are items identified by the manufacturer's product name, including make or model number or other designation, shown or listed in the manufacturer's published product literature, that is current as of the date of the Contract Documents.
  - 2. "Materials" are products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
  - 3. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.

**1.4 QUALITY ASSURANCE**

- A. Source Limitations: To the fullest extent possible, provide products of the same kind from a single source.

**1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- A. Deliver, store, and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.
  - 1. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
  - 2. Deliver products to the site in an undamaged condition in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
  - 3. Inspect products upon delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
  - 4. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
  - 5. Store products subject to damage by the elements above ground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

## **PART 2 - PRODUCTS**

### **2.1 PRODUCT SELECTION**

- A. In general these specifications identify required materials and equipment by naming first the manufacturer whose product was used on the basis for the project design and specifications. The manufacturer's product, series, model, catalog and/or identification numbers shall set quality and capacity requirements for comparing the equivalency of other manufacturer's products. Where other manufacturer's names are listed they are considered an approved manufacturer for the product specified, however, the listing of their names implies no prior approval of any product they may propose to furnish as equivalent to the first named product unless specific model or catalog numbers are listed in these specifications or in subsequent addenda. Where other than first named products are used for Contractor base bid proposal it shall be his responsibility to determine prior to bid time that his proposed materials and equipment selections are products of approved manufacturers, that will meet or exceed the specifications and are acceptable to the Architect.
- B. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, new at the time of installation.
  - 1. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.
- C. Product Selection Procedures: The Contract Documents and Architect govern product selection. Procedures governing product selection include the following:
  - 1. Proprietary Specification Requirements: Where only a single product or manufacturer, provide the product indicated. No substitutions will be permitted.
  - 2. Semiproprietary Specification Requirements: Where two (2) or more products or manufacturers are named, provide 1 of the products indicated. No substitutions will be permitted.
    - a. Where products or manufacturers are specified by name, accompanied by the term "or equal" or "or approved equal," comply with the Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
  - 3. Nonproprietary Specifications: When available products or manufacturers are specified and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with

- Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
4. Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
  5. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by the manufacturer for the application indicated.
    - a. Manufacturer's recommendations may be contained in published product literature or by the manufacturer's certification of performance.
  6. Compliance with Standards, Codes, and Regulations: Where Specifications only require compliance with an imposed code, standard, or regulation, select a product that complies with the standards, codes, or regulations specified.
  7. Visual Matching: Where Specifications require matching an established Sample, the Architect's decision will be final on whether a proposed product matches satisfactorily.
    - a. Where no product available within the specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category.
  8. Visual Selection: Where specified product requirements include the phrase "... as selected from manufacturer's standard colors, patterns, textures ..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect will select the color, pattern, and texture from the product line selected.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION OF PRODUCTS**

- A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
  1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

**END OF SECTION 01 60 00**

**SECTION 01 63 10 – PRODUCT SUBSTITUTIONS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section specifies administrative and procedural requirements for handling requests for substitutions made prior to and after award of the Contract.
- B. The Contractor's Construction Schedule are included under Section "Submittals."
- C. Standards: Refer to Section "Definitions and Standards" for applicability of industry standards to products specified.
- D. Procedural requirements governing the Contractor's selection of products and product options are included under Section "Materials and Equipment."

**1.2 DEFINITIONS**

- A. Definitions used in this Article are not intended to change or modify the meaning of other terms used in the Contract Documents.
- B. Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the Contractor are considered requests for "substitutions." The following are not considered substitutions:
  - 1. Revisions to Contract Documents requested by the Owner or Architect.
  - 2. Specified options of products and construction methods included in Contract Documents.

**1.2 PRE-BID SUBSTITUTIONS**

- A. The naming of specified items on the drawings or in the specifications means that such named items are specifically desired by the Architect and/or Owner. If the words "or acceptable equal" or "or approved equal" follows such named items, substitution requests maybe submitted. REQUESTS FOR SUBSTITUTION MUST BE RECEIVED BY ARCHITECT SEVEN DAYS PRIOR TO BID OPENINGS.
- B. Requests for Substitutions should be written and should be as explicit as possible as to the product data being submitted for review, including identification of any deviations and/or changes required to related components, if any. Accepted Substitutions will only be formalized by written addendum prior to bid opening. Post-Bid substitution requests are subject to the same requirements for equality and judgement by the Architect, and bear the risk of potential non-acceptance.
- C. The Architect is the sole judge as to the equality of proposed substitutions. ONLY WRITTEN ACCEPTANCES WILL BE HELD VALID BY THE ARCHITECT.
- D. If any substitution will affect a correlated function, adjacent construction, or the work of other trades or contractors, the necessary changes and modifications to the affected work will be considered as part of the substitution, to be accomplished without additional cost to the Owner, if and when accepted.
- E. The Architect will review substitution requests within reasonable time. The Architect is not obligated or required to review any and all substitution requests. The Architect is not obligated to inform bidder of incomplete and non-accepted requests. Acceptance of substitutions will be indicated in writing by addendum.
- F. Under no circumstances shall be Architect's acceptance of any such substitution relieve the Contractor from timely, full and proper performance of the work.

## **1.4 SUBMITTALS**

- A. Substitution Request Submittal: Requests for substitution will be considered if received within 30 days after commencement of the Work. Requests received more than 30 days after commencement of the Work may be considered or rejected at the discretion of the Architect.
1. Submit 3 copies of each request for substitution for consideration. Submit requests in the form and in accordance with procedures required for Change Orders.
  2. Identify the product, or the fabrication or installation method to be replaced in each request. Include related Specification and Drawing numbers. Provide complete documentation showing compliance with the requirements for substitutions, and the following information:
    - a. Product Data, including Drawings and descriptions of products, fabrication and installation procedures.
    - b. Samples, where applicable or requested.
    - c. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as size, weight, durability, performance and visual effect.
    - d. Cost information, including a proposal of the net change, if any in the Contract Sum.
    - e. Certification by the Contractor that the substitution proposed is equal-to or better in every significant respect to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional payment or time, that may subsequently become necessary because of the failure of the substitution to perform adequately.
  3. Architect's Action: Within one week of the receipt of the request for substitution, the Architect will request additional information or documentation necessary for evaluation of the request. Within 2 weeks of receipt of the request, or one week of receipt of the additional information or documentation, whichever is later, the Architect will notify the Contractor of acceptance or rejection of the proposed substitution. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, use the product specified by name. Acceptance will be in the form of a Change Order.

## **PART 2 – PRODUCTS**

### **2.1 SUBSTITUTIONS**

- A. Conditions: The Contractor's substitution request will be received and considered by the Architect when one or more of the following conditions are satisfied, as determined by the Architect; otherwise requests will be returned without action except to record noncompliance with these requirements.
1. Extensive revisions to Contract Documents are not required.
  2. Proposed changes are in keeping with the general intent of the Contract Documents.
  3. The request is timely, fully documented and properly submitted.
  4. The request is directly related to an "or equal" clause or similar language in the Contract Documents.
  5. The specified product or method of construction cannot be provided within the Contract Time.
  6. A substantial advantage is offered by the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.
  7. The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the Contractor certifies that the substitution will overcome the incompatibility.
  8. The specified product or methods of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provide the required warranty.

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- B. The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

**PART 3 – EXECUTION (Not Applicable)**

**END OF SECTION 01 63 10**

## SECTION 01 70 00 - PROJECT CLOSEOUT

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
  - 1. Inspection procedures.
  - 2. Project record document submittal.
  - 3. Operating and maintenance manual submittal.
  - 4. Submittal of warranties.
  - 5. Final cleaning.
- B. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions-2 through -16.

#### 1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
  - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
    - a. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
  - 2. Advise Owner of pending insurance change-over requirements.
  - 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
  - 4. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.
  - 5. Deliver tools, spare parts, extra stock, and similar items.
  - 6. Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.
  - 7. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.
- B. Inspection Procedures: On receipt of a request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
  - 1. Upon written statement from the Contractor that the Work is complete, the Architect will repeat the inspection and notification procedure. In the event the work is not complete, the Architect will repeat the inspection process **one additional time only. Further inspection procedures will be at the expense of the Contractor.**
  - 2. Results of the completed inspection will form the basis of requirements for final acceptance.
  - 3. Release of Retainage or portions there of will not be approved without Consent of Surety.

#### 1.3 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
  - 1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
  - 2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
  - 3. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Architect.
  - 4. Submit consent of surety to final payment.

## **Benton Country Street Dept Addition**

5. Submit a final liquidated damages settlement statement.
  6. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  7. Submit record drawings, maintenance manuals, final project photographs, damage or settlement survey, property survey, and similar final record information.
- B. Reinspection Procedure: The Architect will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Architect.
1. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
  2. If necessary, reinspection will be repeated.
  3. A total of only two re-inspections, after initial punch list inspection, are included in the contract. Additional inspections will be conducted at the expense of the Contractor by crediting the inspection fees against the contract amount.

### **1.4 RECORD DOCUMENT SUBMITTALS**

- A. General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect's reference during normal working hours.
- B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
1. Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.
  2. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.
  3. Note related Change Order numbers where applicable.
  4. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.
- C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data.
1. Upon completion of the Work, submit record Specifications to the Architect for the Owner's records.
- D. Record Product Data: Maintain one copy of each Product Data submittal. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned later by direct observation. Note related Change Orders and mark-up of record drawings and Specifications.
1. Upon completion of mark-up, submit complete set of record Product Data to the Architect for the Owner's records.
- E. Record Sample Submitted: Immediately prior to the date or dates of Substantial Completion, the Contractor will meet at the site with the Architect and the Owner's personnel to determine which of the submitted Samples that have been maintained during progress of the Work are to be transmitted to the Owner for record purposes. Comply with delivery to the Owner's Sample storage area.
- F. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and

reference. Submit to the Architect for the Owner's records.

- G. Maintenance Manuals: Organize operating and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual heavy-duty 2-inch, 3-ring vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Include the following types of information:
1. Emergency instructions.
  2. Spare parts list.
  3. Copies of warranties.
  4. Wiring diagrams.
  5. Recommended "turn around" cycles.
  6. Inspection procedures.
  7. Shop Drawings and Product Data.
  8. Fixture lamping schedule.

## **PART 2 - PRODUCTS (Not Applicable)**

## **PART 3 - EXECUTION**

### **3.1 CLOSEOUT PROCEDURES**

- A. Operating and Maintenance Instructions: Arrange for each installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:
1. Maintenance manuals.
  2. Record documents.
  3. Spare parts and materials.
  4. Tools.
  5. Lubricants.
  6. Fuels.
  7. Identification systems.
  8. Control sequences.
  9. Hazards.
  10. Cleaning.
  11. Warranties and bonds.
  12. Maintenance agreements and similar continuing commitments.
- B. As part of instruction for operating equipment, demonstrate the following procedures:
1. Start-up.
  2. Shutdown.
  3. Emergency operations.
  4. Noise and vibration adjustments.
  5. Safety procedures.
  6. Economy and efficiency adjustments.
  7. Effective energy utilization.

### **3.2 FINAL CLEANING**

- A. General: General cleaning during construction is required by the General Conditions and included in Section "Temporary Facilities".
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
1. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.
    - a. Remove labels that are not permanent labels.
    - b. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
    - c. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original

### **Benton Country Street Dept Addition**

reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.

- d. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
  - e. Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.
- C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.
- D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.
1. Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition of these materials as directed.

**END OF SECTION 01 70 00**

## SECTION 01 74 00 - WARRANTIES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturers standard warranties on products and special warranties.
  - 1. Refer to the General Conditions for terms of the Contractor's special warranty of workmanship and materials.
  - 2. General closeout requirements are included in Section "Project Closeout."
  - 3. Specific requirements for warranties for the Work and products and installations that are specified to be warranted, are included in the individual Sections of Divisions-2 through -16.
- B. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

#### 1.2 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- D. Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
  - 1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.
- E. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

#### 1.3 SUBMITTALS

- A. Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.
  - 1. Refer to individual Sections of Divisions-2 through -16 for specific content requirements, and particular requirements for submittal of special warranties.

2. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

**PART 2 - PRODUCTS (not applicable).**

**PART 3 - EXECUTION**

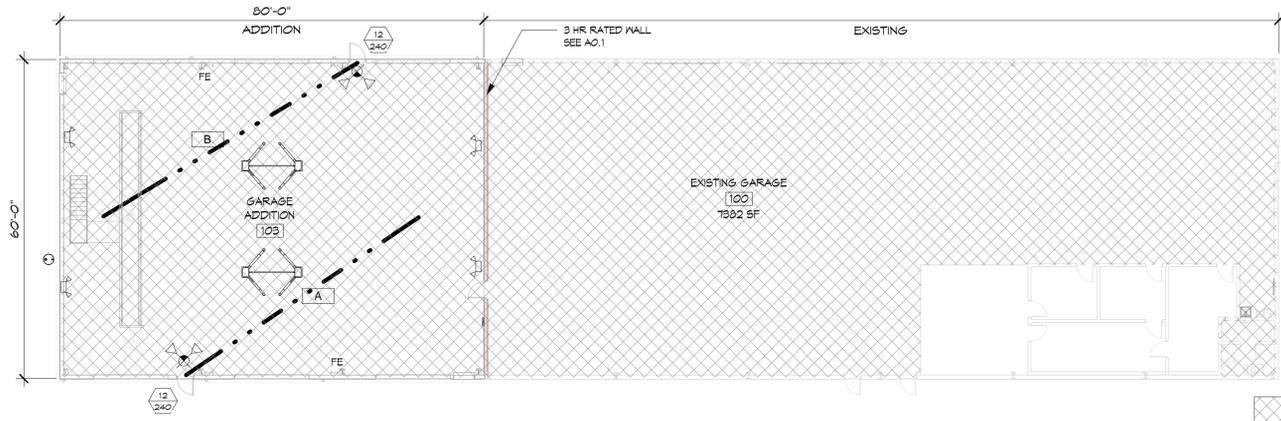
**3.1 SCHEDULE OF WARRANTIES**

- A. General Contractors Warranty: The General Contractor shall provide the Owner with a minimum one year warranty on the entire project in addition to specific warranties. Warranty period shall begin at time of Substantial Completion; except that for punch list items, and/or items not deemed complete or properly functioning as intended, the warranty shall begin from the point the Owner/Architect accepts the item as complete.
- B. Schedule: Provide warranties on products and installations not specifically mentioned in this section but included in Sections 2-16.

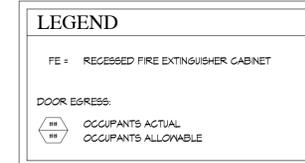
**END OF SECTION 01 74 00**

# STREET DEPT

## 1206 SW 14TH ST BENTONVILLE, AR



EGRESS DISTANCES	
Exit Path	Exit Path Distance
A	53' - 0"
B	56' - 0"



- GENERAL NOTES:**
- CONTRACTOR IS TO INSPECT EXISTING CONDITIONS INCLUDING BUT NOT LIMITED TO, UNDERGROUND WATER MAINS, SEWER, TELEPHONE, AND ELECTRIC WORK HERE UNDER ARE INDICATED ON DRAWINGS FOR DIAGRAMMATIC PURPOSES. NO GUARANTEE AS TO THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION. RESPONSIBILITY FOR SUCH ACCURACY AND COMPLETENESS IS DISCLAIMED. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING UNDERGROUND INSTALLATIONS PRIOR TO EXCAVATING.
  - ALL DIMENSIONS ARE FROM FACE OF STUD, FACE OF CONC. OR CENTER LINE UNLESS NOTED OTHERWISE. DRAWINGS ARE NOT TO BE SCALED. DIMENSIONS SHALL BE IN WRITTEN INFORMATION ONLY. VERIFY DIMENSIONS PRIOR TO WORK. ALTERATIONS IN DIMENSIONS AFFECTING THE DESIGN SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PROMPTLY FOR A RESOLUTION.
  - NOT ALL MATERIALS AND ASSEMBLIES HAVE BEEN SPECIFIED. CONTRACTOR IS TO VERIFY ALL NON-SPECIFIED ITEMS WITH OWNER & ARCHITECT PRIOR TO EXECUTING ANY WORK INVOLVING THESE ITEMS.
  - IT IS THE CONTRACTORS RESPONSIBILITY TO SUBMIT SUBSTITUTIONS OR DEVIATIONS FROM THE CONTRACT DOCUMENTS TO THE ARCHITECT FOR APPROVAL. NON-APPROVED DEVIATIONS WILL HOLD THE ARCHITECTS AND CONSULTING ENGINEERS HARMLESS FOR SUCH ITEMS.
  - ALL WORK TO CONFORM TO APPLICABLE CODES. THE MOST STRINGENT CODE SHALL APPLY. DISCREPANCIES IN CODE AND CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION IMMEDIATELY AND RESOLVED BEFORE PROCEEDING.
  - ALL MATERIALS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND AS SUCH ALL SUBCONTRACTORS ARE TO INSURE THAT ALL MANUFACTURERS WARRANTIES WILL BE HONORED.
  - ALL SUBCONTRACTORS ARE RESPONSIBLE FOR INSURING THEIR SAFETY AND OF THEIR PERSONNEL ON THE JOB SITE AT ALL TIMES. THEY SHALL CARRY WORKMANS COMPENSATION AND LIABILITY INSURANCE FOR THEMSELVES AND THEIR EMPLOYEES. SUBCONTRACTORS AND THEIR EMPLOYEES SHALL BE PERSONALLY RESPONSIBLE TO FOLLOW ALL OSHA RULES AND REGULATIONS.
  - GENERAL CONTRACTOR IS TO COORDINATE ALL MECH. ELEC. AND PLUMBING AND PROVIDE NECESSARY CONSTRUCTION TO FACILITATE SUCH WORK INCLUDING SUPPORTS, BLOCKING, ROUGH OPENINGS ETC.
  - IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO REVIEW ARCHITECTURAL DRAWINGS BEFORE INSTALLATION OF MECH. ELEC. OR SYSTEMS INSTALLATION, AND SHALL NOTIFY ARCHITECT IMMEDIATELY FOR ANY DISCREPANCIES, AND ANY WORK INSTALLED IN CONFLICT WITH THE CONTRACT DOCUMENTS SHALL BE CORRECTED BY THE GENERAL CONTRACTOR AT NO EXPENSE TO THE OWNER OR ARCHITECT.
  - ALL DRAWINGS, SPECIFICATIONS AND DESIGN OF THE FOLLOWING SYSTEMS ARE TO BE PROVIDED BY OTHERS AS REQUIRED. OWNER SHALL CONTRACT WITH OTHERS UNDER SEPARATE CONTRACTS.  
A. CIVIL ENGINEERING B. MECHANICAL ENGINEERING C. ELECTRICAL ENGINEERING



**Burris Architecture**  
820 Tiger Blvd, Suite 4, Bentonville, Ar 72712  
479-319-6045

**CODE SUMMARY**

APPLICABLE CODES:  
INCLUDED BUT NOT LIMITED TO, THE LATEST ADOPTED ADDITIONS OF THESE CODES AS AMENDED BY THE CITY OF BENTONVILLE AND THE STATE OF ARKANSAS.

- 2012 International Building Code (IBC), Vol. 1 with Arkansas State amendments
- 2012 International Residential Code (IRC), Vol. 2 with Arkansas State amendments
- 2012 International Fire Code (IFC), Vol. 3 with Arkansas State amendments

2010 Edition Arkansas State Mechanical Code,  
2014 Edition National Electric Code (NEC),  
2006 Edition Arkansas State Plumbing Code,  
2006 Edition Arkansas State Fuel Gas Code,  
2004 Edition Arkansas Energy Code.

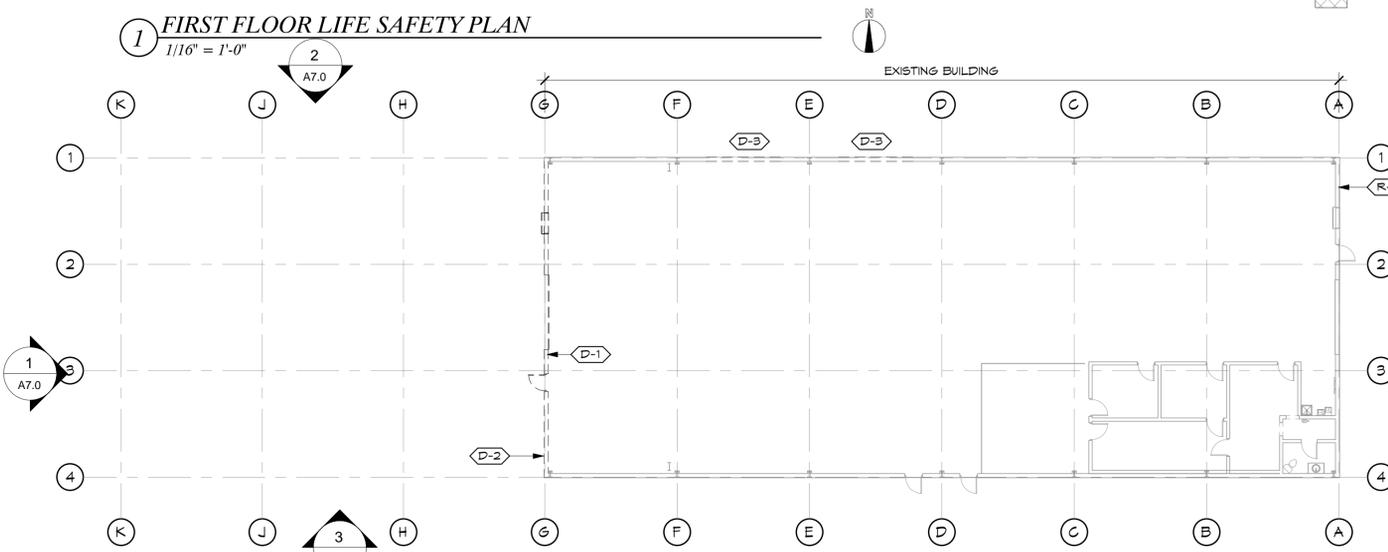
THIS PROJECT IS AN ADDITION TO AN EXISTING BUILDING.

THE BUILDING IS NOT SPRINKLERED. NO FIRE ALARM.

BUILDING DATA:  
PROPOSED USE: REPAIR GARAGE (LESS THAN 12000 SF)  
OCCUPANCY TYPE: S-1

CONSTRUCTION TYPE: 2B  
EXISTING AREA = 4000 SF  
ADDITION AREA = 4500 SF

THERE IS A 3 HR RATED WALL SEPARATING THE NEW BUILDING FROM THE OLD BUILDING. THE FIRE AREA OF BOTH AREAS ARE LESS THAN 12,000 SF - NO SPRINKLER REQD.



**GENERAL DEMO NOTES**

- NOT ALL DEMOLITION IS DETAILED ON THIS SHEET. COORDINATE W/ ARCHITECT AND CONTACT UPON DISCOVERY OF EXISTING FEATURES NEEDING REMOVAL PRIOR TO BUILD BACK.
- CUT AND PATCH WITH CARE TO AVOID DAMAGE TO WORK, SAFETY HAZARDS, VIOLATION OF WARRANTY REQUIREMENTS, BUILDING CODE VIOLATIONS, OR MAINTENANCE PROBLEMS.
- SUB-CONTRACTORS TO INSPECT FIELD CONDITIONS TO IDENTIFY ALL WORK REQUIRED.
- COORDINATE REMOVAL OF ITEMS WITH BUILD BACK PLAN FOR ALL DIMENSIONS AND LAYOUTS.

**DEMO KEYNOTES**

- R-1 EXISTING BUILDING SHELL
- D-1 REMOVE METAL WALL PANEL, AND WALL GIRTS AFTER NEW BUILDING IS IN THE DRY. PREP FOR NEW FIRE WALL.
- D-2 EXISTING GAS ENTRY, RELOCATE TO SOUTH SIDE
- D-3 REMOVE PORTION OF WALL FOR NEW OVERHEAD DOOR GC TO RELOCATE XBRACINGS. SEE PLAN.

### PROJECT TEAM

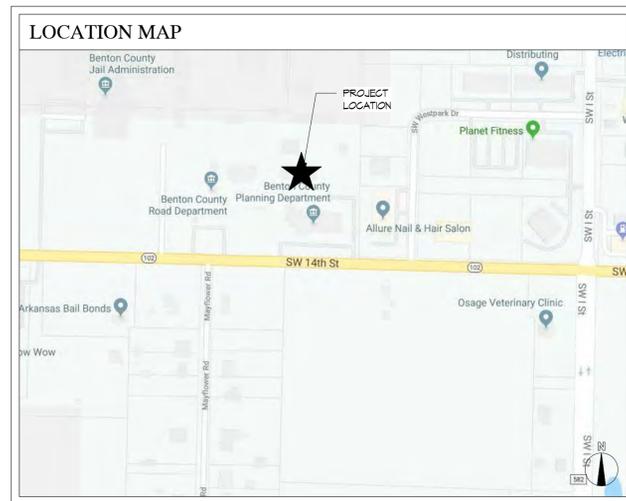
**Burris Architecture**  
820 Tiger Blvd, Suite 4, Bentonville, Ar 72712  
479-319-6045

### STRUCTURAL

MILLER ENGINEERING  
3021 S TIMBERCREEK AVE  
SUITE A  
SPRINGFIELD, MO 65807  
(417) 866-6664

I HEREBY CERTIFY THAT THESE PLANS AND SPECIFICATION HAVE BEEN PREPARED BY ME, OR UNDER MY SUPERVISION. I FURTHER CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE PLANS AND SPECIFICATIONS ARE AS REQUIRED BY LAW AND IN COMPLIANCE WITH THE ARKANSAS FIRE PREVENTION CODE FOR THE STATE OF ARKANSAS.

SHEET INDEX			
#	SHEET NAME	ISSUE DATE	REVISION
A0.0	COVER SHEET	1-13-20	
A0.1	STANDARDS	1-13-20	
S1.0	FOUNDATION PLAN	1-13-20	
S2.0	FOUNDATION DETAILS	1-13-20	
A1.0	FIRST FLOOR PLAN	1-13-20	
A1.1	RCP/ROOF PLAN	1-13-20	
A2.0	EXTERIOR ELEVATIONS	1-13-20	
A3.0	BUILDING SECTIONS	1-13-20	
A1.0	COLOR ELEVATIONS	1-13-20	



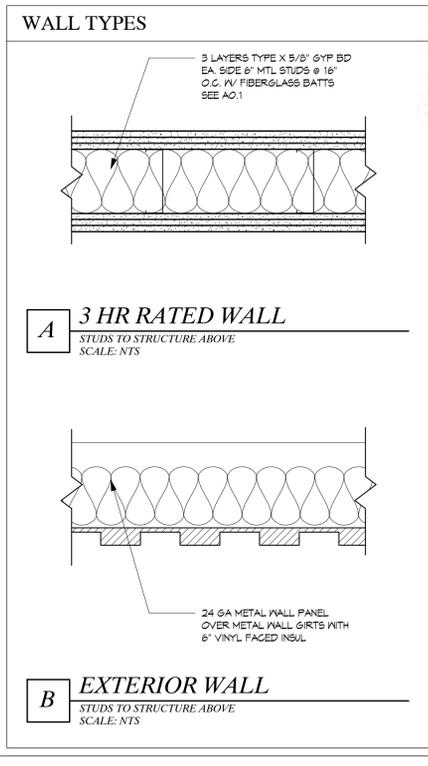
DATE: 1-13-20  
JOB NO.: 19183  
REVISIONS:

**A0.0**  
COVER SHEET

THIS DRAWING IS THE PROPERTY OF BURRIS ARCHITECTURE AND SHALL BE KEPT IN CONFIDENCE. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OR REPRODUCTION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF BURRIS ARCHITECTURE IS STRICTLY PROHIBITED.



Door Schedule						
MARK	DOOR WIDTH	DOOR HEIGHT	ELEVATION	DOOR		NOTES
				FRAME TYPE	DOOR TYPE	
100A	14'-0"	14'-0"	2	MTL	OHD	2
100B	14'-0"	14'-0"	2	MTL	OHD	2
100C	14'-0"	14'-0"	2	MTL	OHD	2
100D	14'-0"	14'-0"	2	MTL	OHD	2
100E	14'-0"	14'-0"	2	MTL	OHD	2
100A	14'-0"	14'-0"	2	MTL	OHD	2
100B	3'-0"	7'-0"	1	HM	1 HM	1
100C	14'-0"	14'-0"	2	MTL	OHD	2
100D	14'-0"	14'-0"	2	MTL	OHD	2
100E	3'-0"	7'-0"	1	HM	1 HM	1
100F	3'-0"	7'-0"	1	HM	1 HM	3
						RATED 3 HOUR



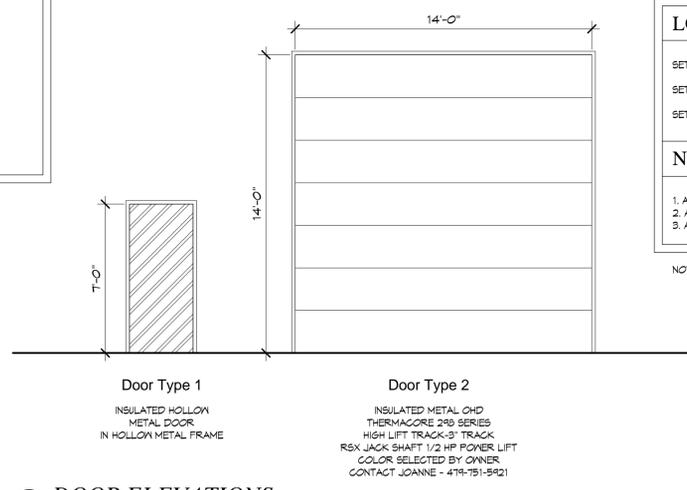
**LOCK SETS:**

SET 1 - KEYED, PUSH PAD EXIT DEVICE, CLOSER, HG ALUM. THRESHOLD  
 SET 2 - OHD HARDWARE PROVIDED BY OHD MANUFACTURER  
 SET 3 - KEYED, CLOSER

**NOTES:**

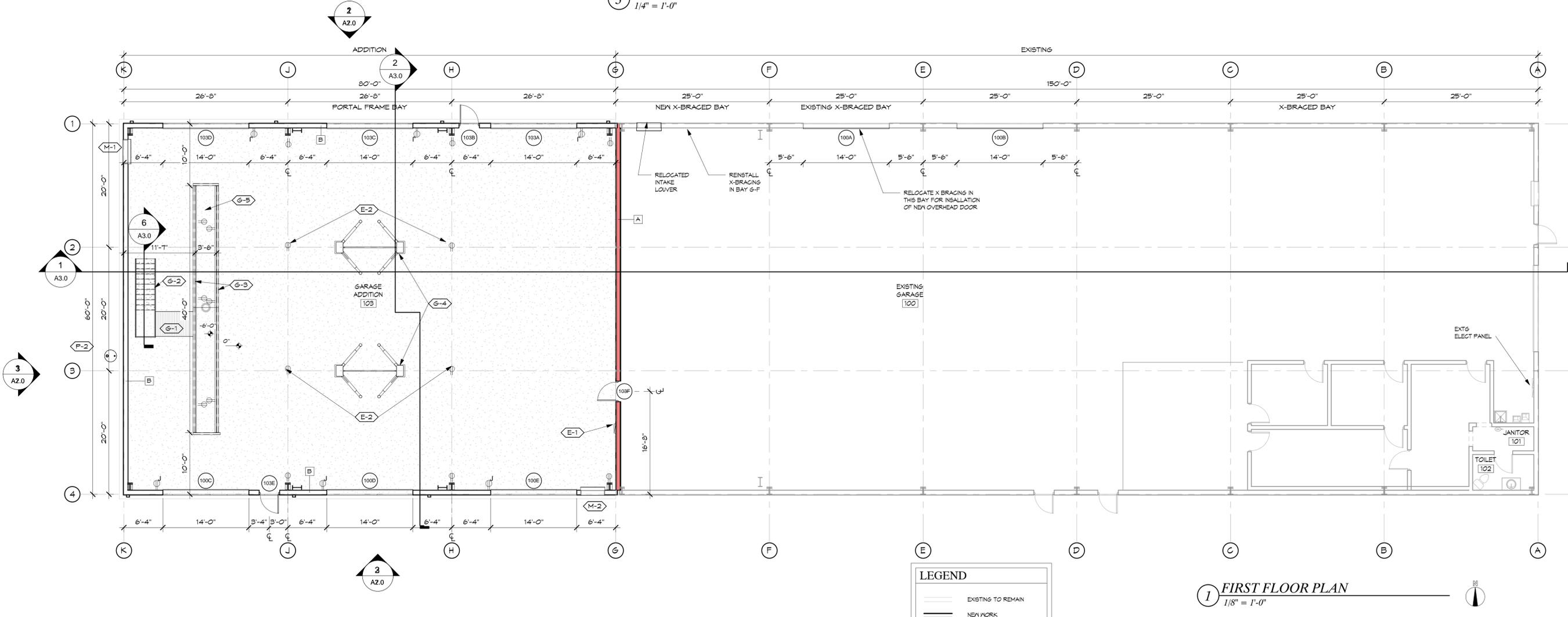
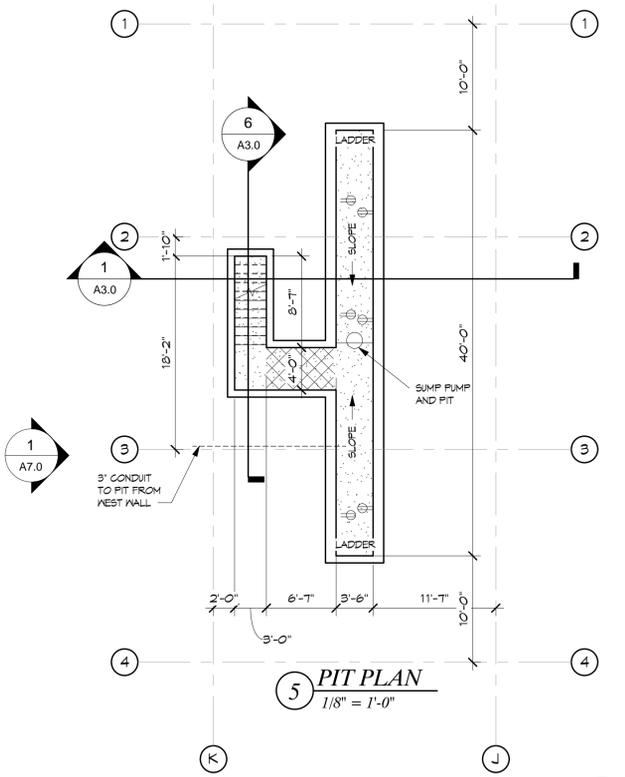
1. ALL HARDWARE TO BE LEVER ACTION IVY A BRUSHED CHROME FINISH -  
 2. ALL CLOSERS TO MEET ADA REQUIREMENTS  
 3. ALL ALUM. DOOR FRAMES ARE TO BE ANODIZED ALUM. FINISH

NOTE: COMPLETE ALL HARDWARE WITH NECESSARY HARDWARE INCLUDING HINGES AND DOOR STOPS



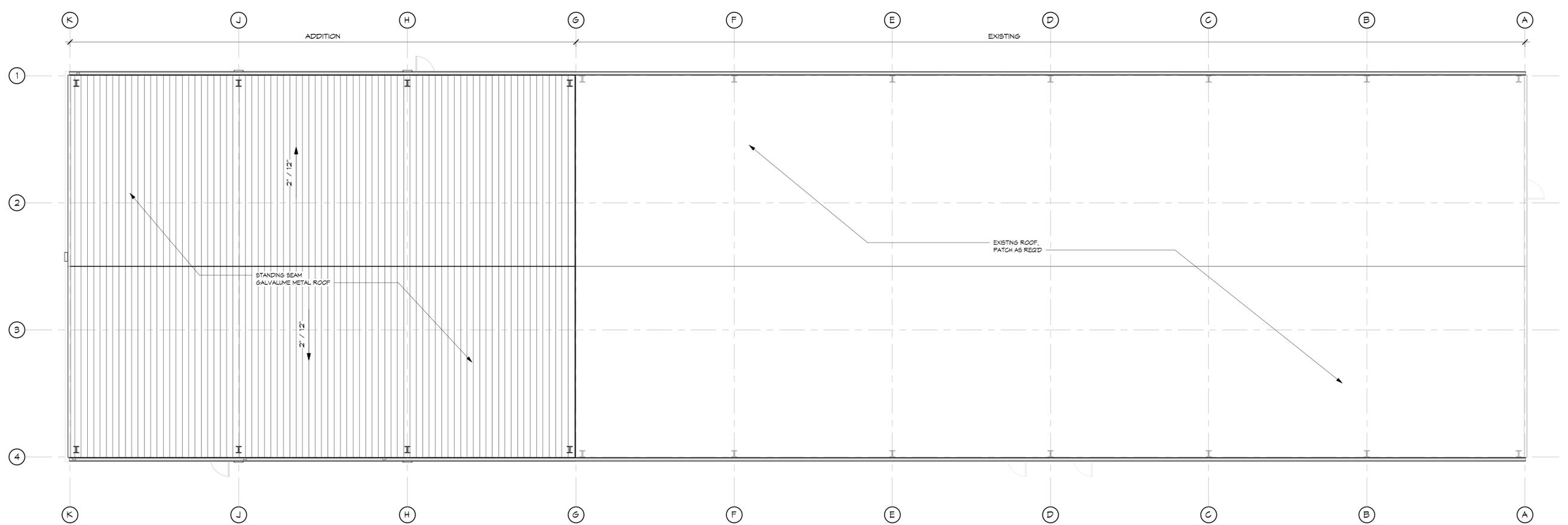
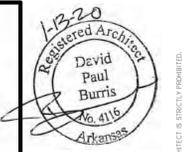
**3 DOOR ELEVATIONS**  
 1/4" = 1'-0"

- KEYNOTES**
- G-1 TRAFFIC RATED GRATE - SEE STRUCTURAL
  - G-2 42" GUARD RAIL AROUND STAIR PIT, TOP MIDDLE AND BOT RAIL, 1-1/2" ROUND STEEL PIPE, GRIND ALL WELDS SMOOTH, PAINTED SAFETY YELLOW
  - G-3 TRIP GUARD MOUNTED IN CONCRETE, SEE DETAIL, PAINT SAFETY YELLOW
  - G-4 LIFTS BY OWNER, ELECTRIC TO PROVIDE POWER OVERHEAD
  - G-5 OIL PIT WITH SAFETY GRATE, SEE STRUCT
  - P-1 SUMP PUMP IN PIT, ROUTE DRAIN TO HOLDING TANK TO THE WEST
  - P-2 HOLDING TANK, BY OWNER
  - E-1 NEW ELECT PANEL
  - E-2 POWER REELS MOUNTED ABOVE, TYP AT (4) LOCATIONS
  - M-1 INTAKE LOUVER- COORDINATE SIZE WITH MECH CONTRACTOR
  - M-2 WALL EXHAUST- COORDINATE SIZE WITH MECH CONTRACTOR

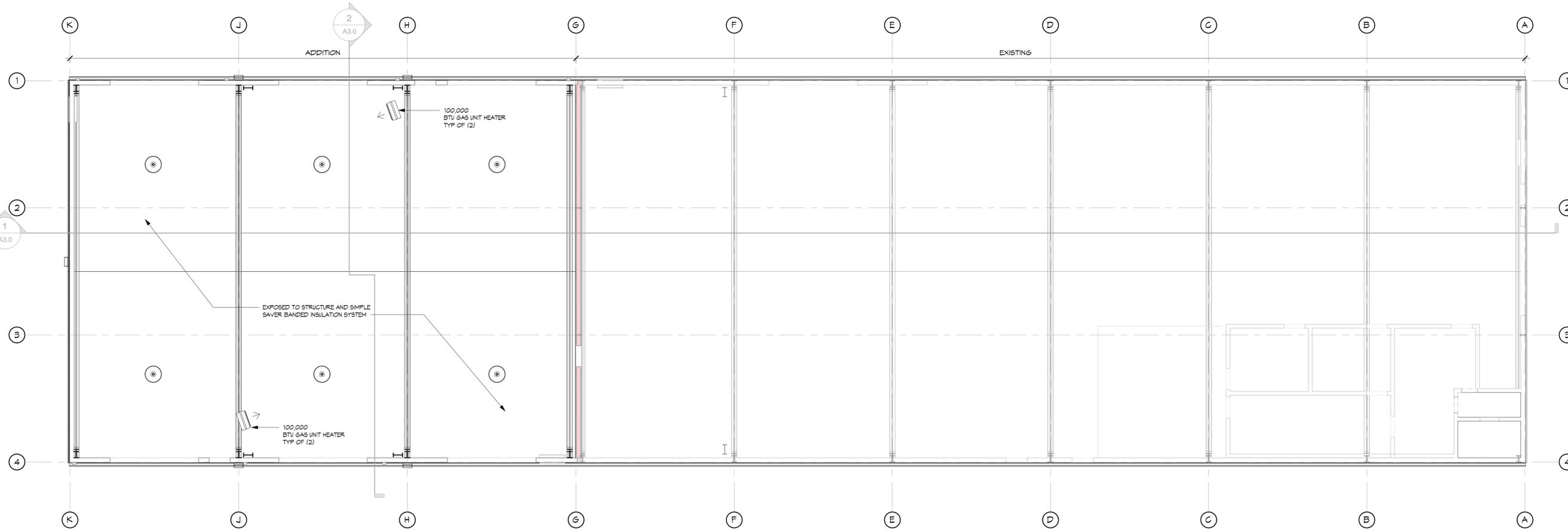


**LEGEND**

	EXISTING TO REMAIN
	NEW WORK



2 ROOF PLAN  
1/8" = 1'-0"



1 FIRST FLOOR RCP  
1/8" = 1'-0"

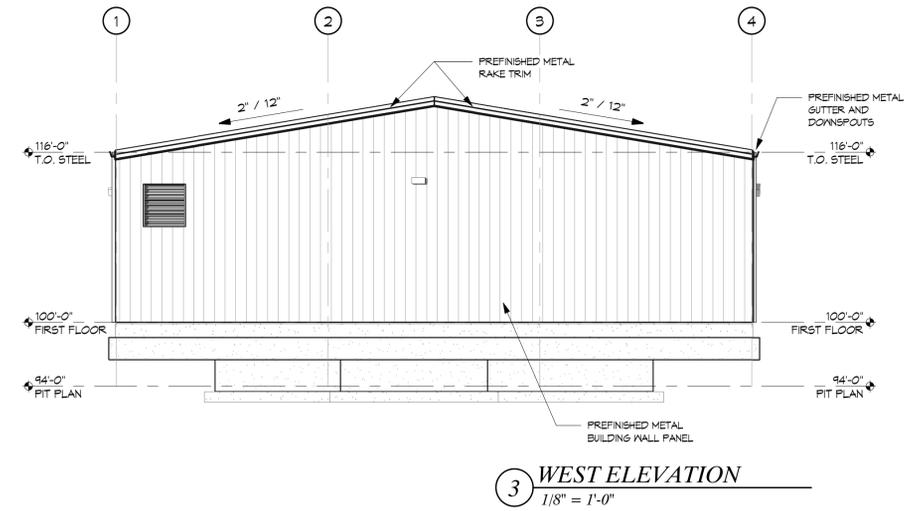
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479-319-6045

**STREET DEPT**  
1206 SW 14TH ST  
BENTONVILLE, AR

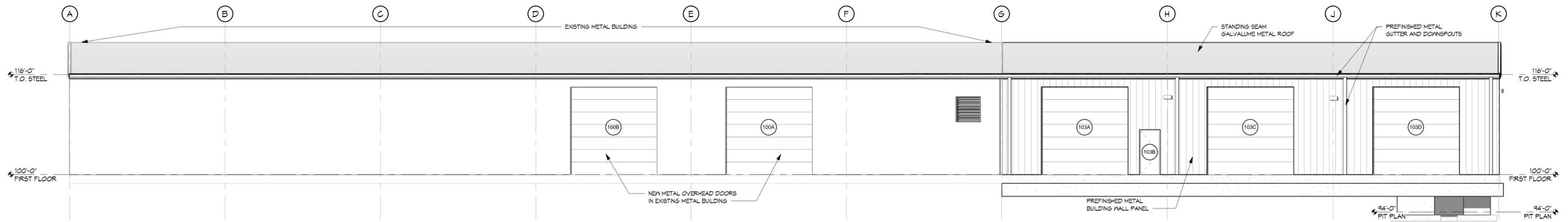
DATE 1-9-20  
JOB NO. 19183  
REVISIONS

**A1.1**  
RCP ROOF PLAN

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3 WEST ELEVATION  
 1/8" = 1'-0"

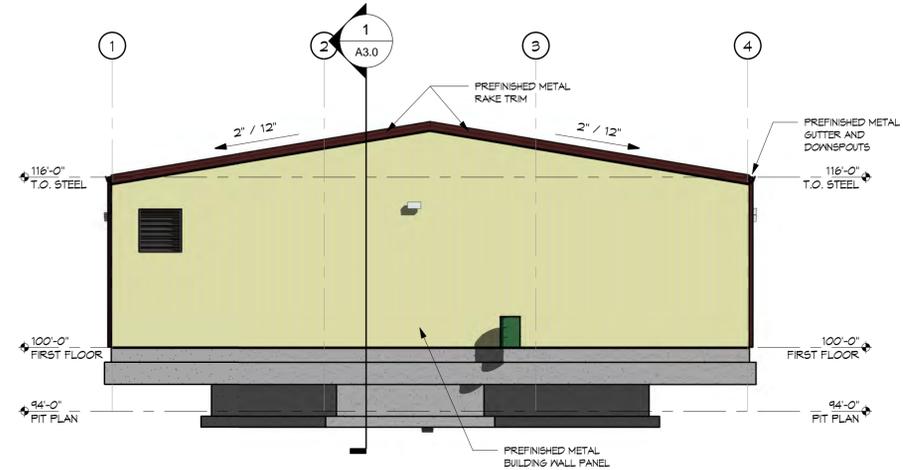


1 NORTH ELEVATION  
 1/8" = 1'-0"

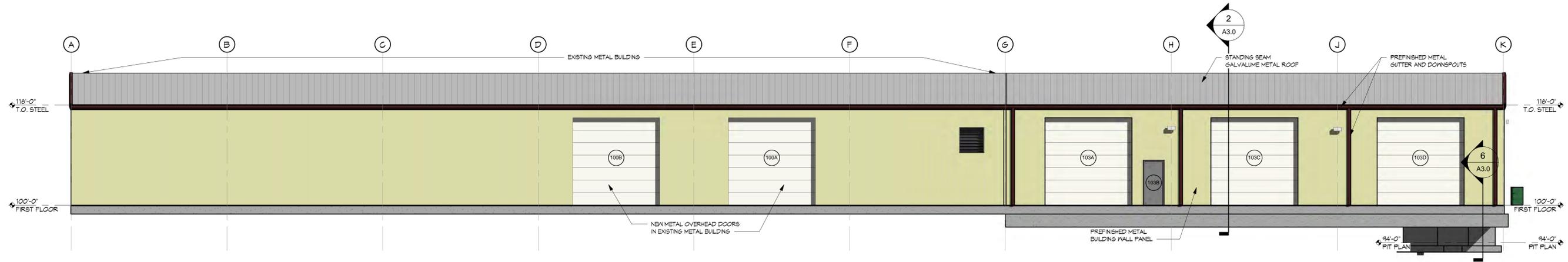


2 SOUTH ELEVATION  
 1/8" = 1'-0"

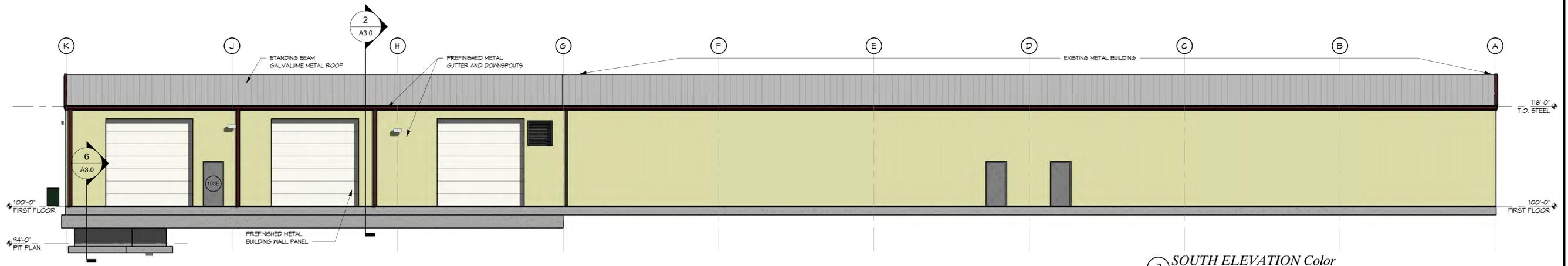




1 WEST ELEVATION Color  
 1/8" = 1'-0"



2 NORTH ELEVATION Color  
 1/8" = 1'-0"



3 SOUTH ELEVATION Color  
 1/8" = 1'-0"

**Burris Architecture**  
 820 Tiger Blvd, Suite 4, Bentonville, Ar 72712  
 479-319-6045

**STREET DEPT**  
 1206 SW 14TH ST  
 BENTONVILLE, AR

DATE  
 1-13-20  
 JOB NO.  
 19183

REVISIONS

**A7.0**  
 COLOR ELEVATIONS

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 BENTONVILLE, AR

DATE	01/13/20
JOB NO.	7578
DRAWN	J. BEARDEN
CHECKED	A. COLEMAN
REVISIONS	

**S1.0**  
 FOUNDATION PLAN

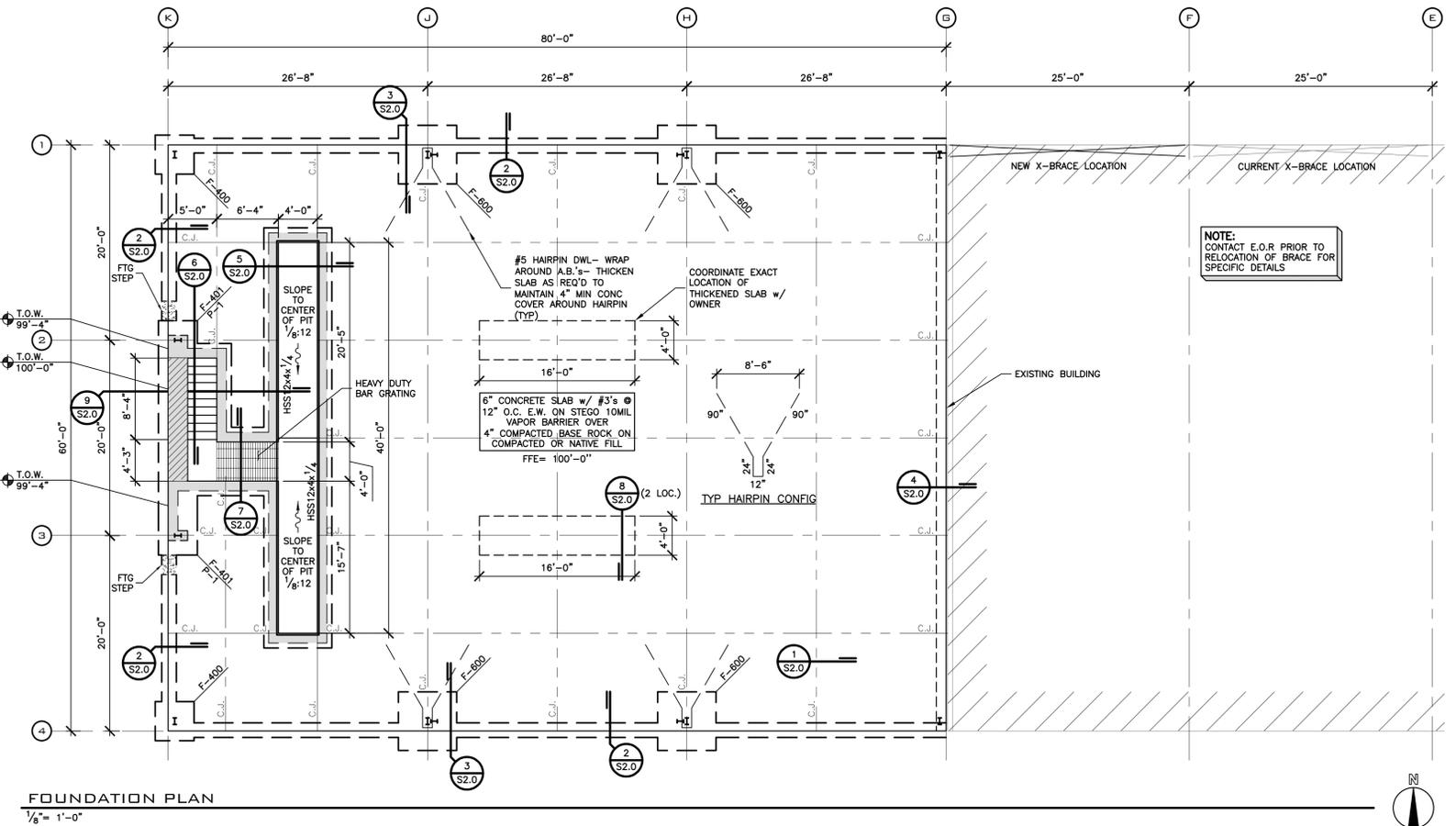
LOAD TABLE	
2012 IBC	
<b>DEAD LOADS</b>	
FLOOR	
SLAB ON GRADE	60 PSF
ROOF	
WEIGHT OF MATERIALS	BY PEMB
COLLATERAL LOAD	5 PSF
<b>LIVE LOADS</b>	
FLOOR	
SLAB ON GRADE	125 PSF
ROOF	20 PSF (NON REDUCIBLE)
<b>OCCUPANCY CATEGORY</b>	
ROOF SNOW LOAD	II
<b>WIND DESIGN DATA</b>	
BASIC WIND SPEED	V <sub>WT</sub> 115.0 MPH
	V <sub>ASD</sub> 90.0 MPH
EXPOSURE CATEGORY	C
INTERNAL PRESSURE COEFFICIENT	±0.18
<b>EARTHQUAKE DESIGN DATA</b>	
SEISMIC IMPORTANCE FACTOR	I <sub>e</sub> 1.00
MAPPED SPECTRAL RESPONSE ACCELERATIONS	S <sub>s</sub> 0.159 S <sub>1</sub> 0.091
SITE CLASS	D
SPECTRAL RESPONSE COEFFICIENTS	S <sub>DS</sub> 0.17 S <sub>DI</sub> 0.145
SEISMIC DESIGN CATEGORY	C
SEISMIC RESPONSE FACTOR	R <sup>s</sup> BY PEMB
BASIC SEISMIC-FORCE-RESISTING SYSTEM	BY PEMB
SEISMIC RESPONSE COEFFICIENT	C <sub>s</sub> BY PEMB
DESIGN BASE SHEAR	V BY PEMB
ANALYSIS PROCEDURE USED	BY PEMB
ALLOWABLE SOIL BEARING CAPACITY	2000 PSF

REBAR SPlice & DEVELOPMENT LENGTHS							
BAR SIZE	DEVELOPMENT LENGTHS (IN)						
	STRAIGHT DOWEL TENSION DEVELOPMENT LENGTHS						
	F <sub>c</sub> = 3000 PSI		F <sub>c</sub> = 3500 PSI		F <sub>c</sub> = 4000 PSI		
TOP	OTHER	TOP	OTHER	TOP	OTHER	COMPRESSION DEVELOPMENT LENGTHS	
#3	22	17	20	16	19	15	9
#4	29	22	27	21	25	19	11
#5	36	28	33	26	31	24	14
#6	43	33	40	31	37	29	17
#7	63	48	58	45	54	42	20
#8	72	55	66	51	62	48	22

BAR SIZE	TENSION SPlice LENGTHS <sup>1,2</sup> (CLASS B)						COMPRESSION SPlice LENGTHS
	F <sub>c</sub> = 3000 PSI		F <sub>c</sub> = 3500 PSI		F <sub>c</sub> = 4000 PSI		
	TOP	OTHER	TOP	OTHER	TOP	OTHER	
#3	28	22	26	20	24	19	12
#4	37	29	35	27	32	25	15
#5	47	36	43	33	40	31	19
#6	56	43	52	40	48	37	23
#7	81	63	75	58	70	54	27
#8	93	72	86	66	80	62	30

NOTES:  
 1. LAP SPlice LENGTHS ARE BASED ON THE ASSUMPTION THAT BARS ARE IN CONTACT ALONG THE FULL LENGTH OF THE SPlice.  
 2. TOP BARS ARE HORIZONTAL BARS PLACED WITH AT LEAST 12" OF FRESH CONCRETE PLACED UNDER THE BARS.



PAD FTG/PEDESTAL SCHEDULE				
PAD FOOTING MARK				
MARK	W	L	REINF EACH WAY	BTM ELEV
F-400	4'-0"	4'-0"	1'-4" 5- #5's BTM	98'-0"
F-401	4'-0"	4'-0"	0'-8" 5- #5's BTM	93'-4"
F-600	6'-0"	6'-0"	1'-4" 7- #5's BTM	98'-0"

CONCRETE PEDESTAL MARK				
MARK	SIZE	VERT STEEL	TIES (NOTE 2)	TOP ELEV
P-1	1'-0"x1'-0"	4- #4's	#3's @ 8" O.C.	99'-4"

CONCRETE FOOTING MARK: F-300, P-1  
 CONCRETE PEDESTAL MARK: P-1

NOTE: CENTER ALL FOOTINGS UNDER COLUMNS. WHEN PEDESTALS ARE PRESENT, FOOTING AND PEDESTAL ARE CENTERED - COLUMNS ARE NOT NECESSARILY CENTERED ON PEDESTALS (TYP)

NOTE: TOP (3) TIES ARE @ 4" O.C. (TOP [2] IN SLAB) - REMAINDER @ 8" O.C. (TYP UNO)

NOTE: VERIFY PEDESTAL SIZES WITH METAL BUILDING MANUFACTURER. PROVIDE FULL BEARING UNDER BASE PLATE AND 2" MINIMUM CONCRETE COVER OVER ANCHOR BOLTS

NOTE: VERTICAL PEDESTAL REINFORCING SHALL HAVE A 90 DEGREE HOOK WITH AN 8" EXTENSION @ BOTTOM UNO

**GENERAL NOTES**

- IN CASES OF DISCREPANCIES IN DIMENSIONS AND ELEVATIONS BETWEEN STRUCTURAL AND ARCHITECTURAL DRAWINGS, CONTRACTOR SHALL COORDINATE WITH ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE TEMPORARY GUYS AND BRACING AS REQUIRED DURING THE CONSTRUCTION. STRUCTURE IS NOT STABLE UNTIL ALL STRUCTURAL MEMBERS, CONNECTIONS, AND DECKING ARE IN PLACE.
- FIELD VERIFY ALL EXISTING CONDITIONS, NOTIFY DESIGN TEAM WHEN EXISTING CONDITIONS ARE IN CONFLICT WITH THE CONSTRUCTION DOCUMENTS.
- CONTRACTOR SHALL VERIFY ANCHOR BOLT LAYOUT AND BUILDING DIMENSIONS WITH PRE-ENGINEERED METAL BUILDING MANUFACTURER'S SHOP DRAWINGS BEFORE BEGINNING CONSTRUCTION.
- FOUNDATION DESIGN INDICATED IN THESE DOCUMENTS WAS BASED UPON ENGINEERING JUDGMENT. WHEN THE CONTRACTOR RECEIVES FINAL BUILDING REACTION DOCUMENTS THESE SHALL BE FORWARDED TO THE ENGINEER FOR FINAL REVIEW. THE STRUCTURAL ENGINEER OF RECORD RESERVES THE RIGHT TO MODIFY THE FOUNDATION DESIGN AFTER FINAL BUILDING REACTIONS ARE PROVIDED BY THE METAL BUILDING MANUFACTURER.
- THE FOUNDATIONS AND STRUCTURAL FRAMING HAVE BEEN DESIGNED TO RESIST SEISMIC FORCES PER THE INTERNATIONAL BUILDING CODE REFERENCED IN THE LOAD TABLE IN ACCORDANCE WITH THE REQUIREMENTS OF ACT 1100 OF THE 1991 ARKANSAS STATE LEGISLATURE. THE REQUIRED SEISMIC DESIGN DATA IS AS SHOWN IN THE LOAD TABLE.

**FOUNDATION NOTES**

- IN THE AREA OF THE BUILDING, EXISTING ORGANIC MATERIAL, UNSUITABLE SOIL, ABANDONED FOOTINGS, PAVEMENT AND OTHER DELETERIOUS MATERIALS SHALL BE REMOVED.
- ALL UNDERCUTTING, SITE PREPARATION, FILL SELECTION, BACKFILLING AND COMPACTION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF A SOILS ENGINEER.
- TESTING OF CONTROLLED STRUCTURAL FILL SHALL BE PERFORMED BY A QUALIFIED TESTING LABORATORY IN ACCORDANCE WITH THE SPECIAL INSPECTION NOTES.
- EXCAVATION FOR FOOTINGS SHALL BE CUT TO ACCURATE SIZE AND DIMENSIONS AS SHOWN ON PLANS. ALL SOIL BELOW SLABS AND FOOTINGS SHALL BE PROPERLY COMPACTED AND SUBGRADE BROUGHT TO A REASONABLE TRUE AND LEVEL PLANE BEFORE PLACING CONCRETE.
- AFTER EXCAVATION FOR FOUNDATIONS AND PRIOR TO PLACEMENT OF STEEL REINFORCEMENT OR CONCRETE, NOTIFY SOILS ENGINEER FOR INSPECTION OF SOIL CONDITIONS.
- FOOTINGS SHALL BEAR AT MINIMUM DEPTHS AS NOTED IN FOOTING SECTIONS AND PLANS OR INTO APPROVED BEARING STRATA, WHICHEVER DEPTH IS GREATER, NOTE THAT FOOTING BEARING ELEVATIONS GIVEN ON THE PLANS ARE ESTIMATED DEPTHS ONLY. WHERE UNSUITABLE SOIL IS ENCOUNTERED OR WHERE FINISHED EXTERIOR GRADE VARIES FROM THE ASSUMED EXTERIOR GRADE, FOOTING DEPTHS MAY VARY.
- CONTINUOUS SPREAD FOOTINGS AND ISOLATED FOOTINGS ARE DESIGNED FOR A NET ALLOWABLE SOIL BEARING AS SPECIFIED IN THE LOAD TABLE. FOR EITHER NATURALLY OCCURRING SOIL OR COMPACTED ENGINEERED FILL. AFTER FOOTING EXCAVATIONS HAVE BEEN MADE TO DESIGN ELEVATIONS, THE INDEPENDENT TESTING AGENCY EMPLOYED BY THE OWNER SHALL INSPECT AND TEST THE BEARING SOIL. WHEN SOIL OF INADEQUATE STRENGTH IS NOTED, CONTRACTOR SHALL FURTHER DEEPEN EXCAVATIONS UNTIL SUITABLE BEARING CONDITIONS ARE VERIFIED BY TESTING. OVER EXCAVATIONS MAY BE BACKFILLED WITH SUITABLE COMPACTED ENGINEERED FILL, SUITABLE GRANULAR BASE, LEAN CONCRETE OR STRUCTURAL CONCRETE BACKFILL.
- IF BEDROCK IS ENCOUNTERED IT SHALL BE OVER-EXCAVATED TO ALLOW PLACEMENT OF A MINIMUM OF 12" OF COMPACTED LOW PLASTICITY EARTH FILL OR COMPACTED BASE ROCK BELOW FOOTINGS.

**CONCRETE NOTES**

- CONCRETE WORK SHALL CONFORM TO BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318) AND SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301), LATEST EDITION.
- CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED AND PLACED UNDER THE SUPERVISION OF AN APPROVED CONCRETE TESTING AGENCY. SEE THE SPECIAL INSPECTION NOTES FOR ADDITIONAL INFORMATION.
- CONCRETE FOR FOOTINGS SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI. THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.52 BY WEIGHT. A MINIMUM OF 4 BAGS OF CEMENT SHALL BE USED PER CUBIC YARD WITH A SLUMP OF 4" ±1".
- CONCRETE FOR THE SLAB ON GRADE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI AND SHALL CONTAIN SYNTHETIC FIBER REINFORCING. THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.45 BY WEIGHT. A MINIMUM OF 5½ BAGS OF CEMENT SHALL BE USED PER CUBIC YARD WITH A SLUMP OF 4" ±1".
- CONCRETE SLABS SHALL BE FINISHED TO THE FOLLOWING TOLERANCES:
  - A. SPECIFIED OVERALL VALUE F<sub>1</sub>=±3/8 F<sub>2</sub>±5 MINIMUM LOCAL VALUE F<sub>1</sub>=1/8 F<sub>2</sub>±13
  - B. FLOOR TOLERANCE MEASUREMENTS FOR LEVELNESS AND FLATNESS SHALL BE TESTED IN ACCORDANCE WITH ASTM E1155. ACTUAL OVERALL F-NUMBERS SHALL BE CALCULATED USING THE INFIRIOR/SUPERIOR AREA METHOD.
  - C. ALL FLOOR TOLERANCE MEASUREMENTS SHALL BE MADE BY THE CONTRACTOR WITHIN 24 HOURS AFTER SLAB INSTALLATION AND BEFORE SAW CUTTING OF CONTROL JOINTS. IN ALL CASES, TOLERANCE MEASUREMENTS SHALL PRECEDE THE REMOVAL OF SHORES AND FORMS. RESULTS OF ALL FLOOR PROFILE TESTS SHALL BE PROVIDED TO THE CONTRACTOR WITHIN 48 HOURS OF EACH SLAB INSTALLATION. SECTIONS OF FLOOR NOT MEETING THE MINIMUM TOLERANCES HEREIN SHALL BE REMOVED OR REPAIRED AT THE DIRECTION OF THE ARCHITECT/ENGINEER.
- IF ADDITIONAL FLOWABILITY IS REQUIRED FOR PLACEMENT OF ANY CONCRETE MIX, A WATER-REDUCING ADDITIVE CONFORMING TO ASTM C494, TYPE A, SHALL BE USED. NO ADDITIONAL WATER MAY BE ADDED TO THE MIX.
- FLY ASH MAY BE USED AS A ONE TO ONE REPLACEMENT FOR THE CEMENT UP TO 20% OF THE TOTAL CEMENT CONTENT AS LONG AS THE AMBIENT TEMPERATURE IS ABOVE 50 DEGREES FAHRENHEIT.
- DO NOT AIR ENTRAIN CONCRETE TO BE USED FOR FLOORS WITH A TROWELED FINISH. DO NOT ALLOW ENTRAPPED AIR CONTENT TO EXCEED 3%.
- FINE AND COARSE AGGREGATE SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR GRADING SIZE. PARTICLE DISTRIBUTION, DELETERIOUS CONTENT, SOUNDNESS AND CHERT. COURSE AGGREGATES SHALL MEET THE REQUIREMENTS OF ASTM C33 TABLE 3 CLASS 45. FINE AGGREGATE MAY BE NATURAL OR MANUFACTURED SAND FROM QUARRIES OR PITS WHICH HAVE GIVEN SATISFACTORY SERVICE PERFORMANCE WHEN EXPOSED IN A SIMILAR MANNER TO THAT TO BE ENCOUNTERED.
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. LAP SPICES IN ACCORDANCE WITH THE REBAR SPlice & DEVELOPMENT LENGTH SCHEDULE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A188. LAP FABRIC AT LEAST TWO CROSS WIRES PLUS AN ADDITIONAL 2" INCHES ON SIDES AND ENDS (CROSS WIRE SPACING = 2"). MAINTAIN WIRE 1" TO 2" BELOW TOP SURFACE OF SLABS.
- WHERE FOOTINGS, WALLS, OR OTHER STRUCTURAL ELEMENTS INTERSECT, CORNER OR TEE HORIZONTAL REINFORCING, UNLESS NOTED OTHERWISE.
- COLD-WEATHER PLACEMENT SHALL COMPLY WITH ACI 306.1.
- HOT-WEATHER PLACEMENT SHALL COMPLY WITH ACI 305R.

**METAL BUILDING NOTES**

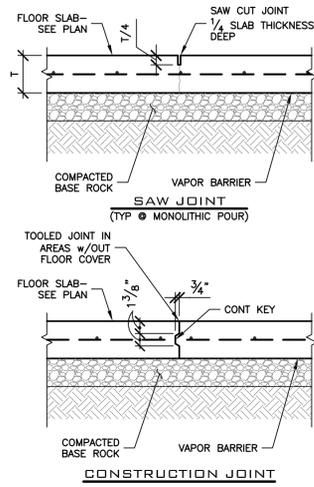
- METAL BUILDING MANUFACTURER SHALL SUBMIT CALCULATIONS AND SHOP DRAWINGS, STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MISSOURI, FOR REVIEW PRIOR TO FABRICATION.
- METAL BUILDING SHALL BE DESIGNED TO RESIST THE LOADS SPECIFIED IN THE LOAD TABLE IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2009 INTERNATIONAL BUILDING CODE AND THE LATEST EDITION OF THE MBMA METAL BUILDING SYSTEMS MANUAL.
- METAL BUILDING VERTICAL BRACING SHALL CONSIST OF PORTAL FRAMES OR X-BRACING AS INDICATED AT LOCATIONS SHOWN ON PLANS. IF BRACING IS NOT SHOWN, METAL BUILDING MANUFACTURER SHALL COORDINATE LOCATION OF ALL BRACES TO MINIMIZE INTERFERENCE WITH ARCHITECTURAL FEATURES, MECHANICAL EQUIPMENT AND DUCTS. ROD OR CABLE BRACES MAY NOT BE SUBSTITUTED WHERE PORTAL FRAMES ARE SHOWN.
- MAXIMUM PURLIN LIVE LOAD DEFLECTION SHALL NOT EXCEED SPAN/240 IN AREAS THAT SUPPORT CEILINGS OR FUTURE CEILINGS. MAXIMUM PURLIN LIVE LOAD DEFLECTION SHALL NOT EXCEED SPAN/160 IN OTHER AREAS.
- FRAME LIVE LOAD DEFLECTION SHALL NOT EXCEED SPAN/240 IN AREAS THAT SUPPORT CEILINGS OR FUTURE CEILINGS. FRAME LIVE LOAD DEFLECTION SHALL NOT EXCEED SPAN/160 IN OTHER AREAS.
- MAXIMUM GIRT LATERAL DEFLECTION FROM WIND OR SEISMIC LOADS SHALL NOT EXCEED SPAN/360 FOR GIRTS PROVIDING LATERAL SUPPORT FOR BRICK VENEER OR CMU. MAXIMUM GIRT LATERAL DEFLECTION FROM WIND OR SEISMIC LOADS SHALL NOT EXCEED SPAN/180 FOR GIRTS PROVIDING LATERAL SUPPORT FOR METAL SIDING ONLY.
- MAXIMUM BUILDING SIDE SWAY (DRIFT) FROM WIND OR SEISMIC LOADS SHALL NOT EXCEED WALL HEIGHT/180.
- TYPICAL ANCHOR BOLTS SHALL BE HEADED BOLTS WITH A MINIMUM EMBEDMENT OF 12". ANCHOR BOLTS AT WIND POSTS SHALL BE HEADED BOLTS WITH 12" MINIMUM EMBEDMENT UNLESS NOTED OTHERWISE. SEE METAL BUILDING MANUFACTURER DRAWINGS FOR ANCHOR BOLT SIZE AND LOCATION.
- VERIFY COLUMN PEDESTAL SIZES WITH METAL BUILDING MFR. PROVIDE FULL BEARING UNDER BASE PLATES AND 2" MIN. CONCRETE COVER AROUND ANCHOR BOLTS AND LOCATE HORIZONTAL REINFORCEMENT AND TIES TO THE OUTSIDE FOR ANCHOR BOLT CONTAINMENT.
- CONCENTRATED LOADS THAT ARE TO BE ATTACHED TO THE ROOF STRUCTURE SUCH AS CEILING, PIPE HANGERS, MECHANICAL DUCT WORK, ELECTRICAL FIXTURES, ETC. SHALL BE ATTACHED TO PURLINS OR BEAMS. CONNECTIONS SHALL BE THRU WEB OF PURLINS - DO NOT DRILL HOLES IN THE FLANGES. DO NOT SUSPEND FROM CEILING OR METAL DECK.
- ALL FOUNDATIONS ARE DESIGNED FOR PINNED BASE COLUMNS. NOTIFY STRUCTURAL ENGINEER OF RECORD FOR THE FOUNDATIONS IMMEDIATELY IF FIXED BASE COLUMNS ARE TO BE USED. FOOTINGS MAY HAVE TO BE MODIFIED TO ACCOMMODATE FIXED BASE COLUMNS.
- FOUNDATION DESIGN INDICATED IN THESE DOCUMENTS WAS BASED UPON PRELIMINARY BUILDING REACTIONS PROVIDED BY THE METAL BUILDING MANUFACTURER. WHEN THE CONTRACTOR RECEIVES FINAL BUILDING DOCUMENTS THESE SHALL BE FORWARDED TO THE ENGINEER FOR FINAL REVIEW. THE STRUCTURAL ENGINEER OF RECORD RESERVES THE RIGHT TO MODIFY THE FOUNDATION DESIGN AFTER FINAL BUILDING REACTIONS ARE PROVIDED BY THE METAL BUILDING MANUFACTURER.

**SPECIAL INSPECTION NOTES**

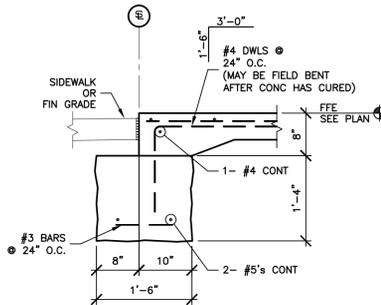
- SPECIAL INSPECTIONS SHALL BE REQUIRED IN ACCORDANCE WITH CHAPTER 17 OF THE IBC REFERENCED IN THE LOAD TABLE. THE OWNER SHALL EMPLOY A THIRD PARTY TESTING AGENCY FOR ALL TESTING STATED HEREIN. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INSPECTIONS WITH SAID INSPECTION AGENCY.
- THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE TO PERFORM THE REQUIRED INSPECTION TO THE SATISFACTION OF THE BUILDING OFFICIAL.
- THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF INSPECTIONS. INSPECTION REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
- REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
- A FINAL REPORT OF INSPECTIONS DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES SHALL BE SUBMITTED TO THE OWNER, BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AT THE COMPLETION OF THE STRUCTURAL PORTION OF THE WORK.
- THE THIRD PARTY TESTING AGENCY SHALL CONTACT THE STRUCTURAL ENGINEER OF RECORD PRIOR TO INITIATION OF CONSTRUCTION.
- SEE FOUNDATION NOTES
- CONCRETE CONSTRUCTION INSPECTION
- INSPECT REINFORCING STEEL PRIOR TO PLACING CONCRETE. CHECK REINFORCING SIZE, SPACING AND LOCATION.
- CYLINDERS SHALL BE MADE FOR DETERMINING THE CONCRETE STRENGTH FROM EACH CLASS OF CONCRETE TO BE PLACED. SAMPLES SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5,000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS.
- EACH TIME THE CYLINDERS ARE MADE THE SLUMP, AIR CONTENT AND TEMPERATURE OF THE CONCRETE SHALL ALSO BE CHECKED.
- THE CONTRACTOR'S METHOD OF MAINTAINING THE MINIMUM CURING TEMPERATURE AND CURING TECHNIQUE SHALL BE REVIEWED.
- STEEL CONSTRUCTION INSPECTION
- PERIODICALLY VERIFY THAT THE PROPER MATERIALS ARE BEING USED.
- PERIODICALLY CHECK TIGHTENING OF HIGH-STRENGTH BOLTS USING THE TURN OF THE NUT METHOD WITH MATCH MARKING TECHNIQUES OR DIRECT TENSION INDICATOR BOLTS.
- WELDING PROCEDURES, MATERIALS AND WELDER QUALIFICATIONS FOR ALL FIELD WELDING SHALL BE VERIFIED PRIOR TO THE START OF WORK.

**MILLER ENGINEERING**  
 structural • forensic • building enclosure

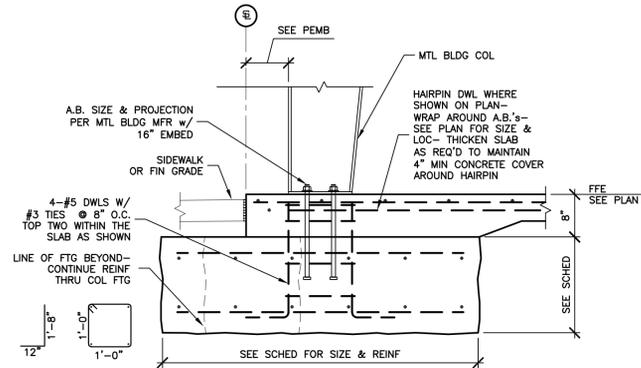
MILLER ENGINEERING, P.C.  
 3827 S TIMBERCREEK AVE, STE A  
 SPRINGFIELD, MO 65807-5685  
 417.866-6664 P  
 417.866-6667 F  
 e-mail: info@millerstructures.com



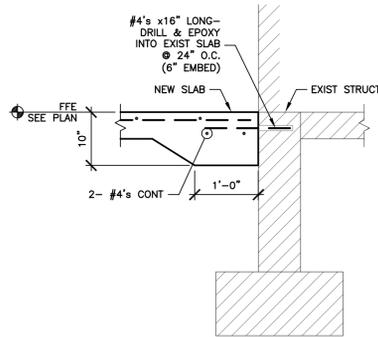
1 CONTRACTION JOINT  
 NTS



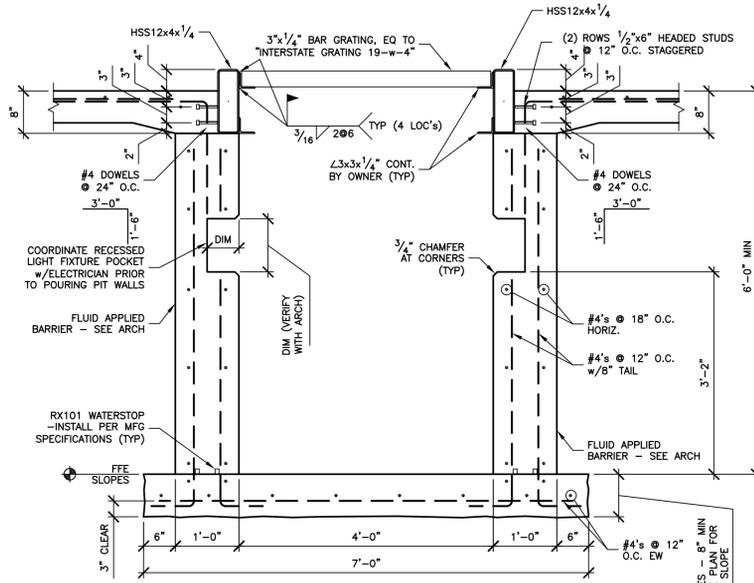
2 TYP FTG SECTION  
 3/4" = 1'-0"



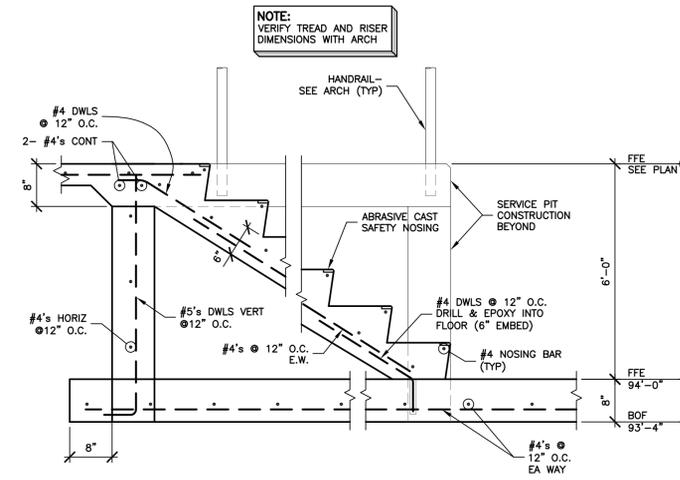
3 COL FTG SECTION  
 3/4" = 1'-0"



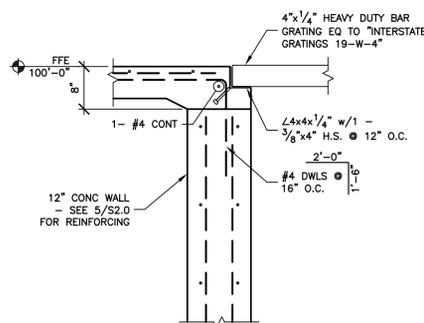
4 THICKENED SLAB @ EXIST  
 3/4" = 1'-0"



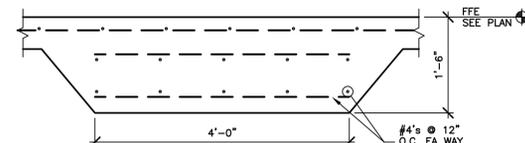
5 SERVICE PIT DETAIL  
 3/4" = 1'-0"



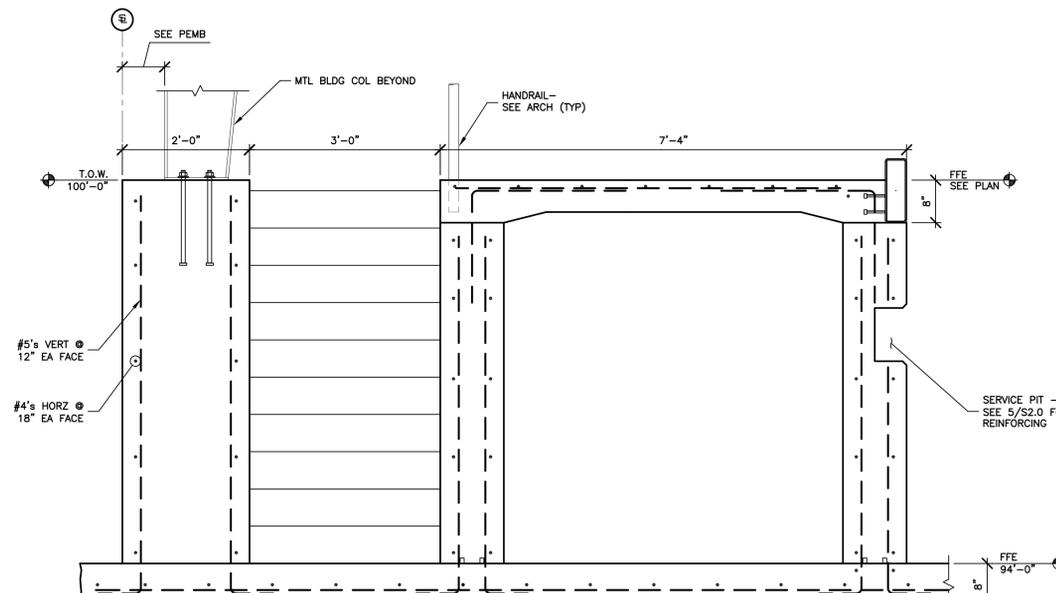
6 SECTION @ STAIR  
 3/4" = 1'-0"



7 SECTION @ PIT ENTRANCE  
 3/4" = 1'-0"



8 THICKENED SLAB  
 3/4" = 1'-0"



9 PIT ENTRANCE DETAIL  
 3/4" = 1'-0"

**Burris Architecture**  
 820 Tiger Blvd Bentonville, Ar 72712  
 479 319 6015

**STREET DEPT**  
 1206 SW 14TH ST  
 BENTONVILLE, AR

DATE: 01/13/20  
 JOB NO.: 7578  
 DRAWN BY: J. BEARDEN  
 CHECKED BY: A. COLEMAN  
 REVISIONS:

# LARGE SCALE DEVELOPMENT PLANS FOR BENTON COUNTY ROAD DEPARTMENT SHOP EXPANSION

1208 S.W. 14TH STREET  
BENTONVILLE, AR 72712

## GENERAL PROJECT NOTES

1. NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING UTILITY SERVICES AND MAINS. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
2. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO SPECIFICALLY MENTION WORK WHICH IS REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK.

## GOVERNING AGENCIES

CITY OF BENTONVILLE PLANNING  
305 SW "A" STREET  
BENTONVILLE, AR 72712  
479-271-3122

CITY OF BENTONVILLE STREET DEPT.  
3200 SW MUNICIPAL DRIVE  
BENTONVILLE, AR 72712  
CONTACT: TONY DAVIS  
479-271-3130

CITY OF BENTONVILLE STORM WATER  
3200 SW MUNICIPAL DRIVE  
BENTONVILLE, AR 72712  
CONTACT: JANET PAITH  
479-271-5002

CITY OF BENTONVILLE FIRE DEPT.  
800 SW "A" STREET  
BENTONVILLE, AR 72712  
479-271-5927

CITY ENGINEER  
800 SW "A" STREET  
BENTONVILLE, AR 72712  
CONTACT:  
479-271-5993

AR DEPT. OF TRANSPORTATION  
P.O. BOX 610  
HARRISON, AR 72602  
CONTACT: DOUG MEARS  
870-416-2961

## UTILITY AGENCIES

GAS COMPANY  
BLACK HILLS ENERGY  
1301 FEDERAL WAY, PO BOX 2129  
LOWELL, AR 72754  
CONTACT: JOSH KNIGHT  
479-333-7005  
joshua.knight@blackhillscorp.com

TELEPHONE  
AT&T  
627 WHITE ROAD  
SPRINGDALE, AR 727166  
CONTACT: SCOTT SEAMAN  
479-442-1977

ELECTRIC  
BENTONVILLE ELECTRIC UTILITY DEPARTMENT  
3200 SW MUNICIPAL DRIVE  
BENTONVILLE, AR 72712  
CONTACT: CHARLIE BARNES  
479-271-3159

CABLE/TELECOM  
COX COMMUNICATIONS  
4901 S 48TH STREET  
SPRINGDALE, AR 72762  
CONTACT: KIP SMITH  
479-717-3796  
kip.smith@cox.com

WATER & SANITARY SEWER  
BENTONVILLE WATER UTILITIES  
3200 SW MUNICIPAL DRIVE  
BENTONVILLE, AR 72712  
CONTACT: PRESTON NEWBILL  
479-271-3140

**FLOOD CERTIFICATION:**  
I HEREBY CERTIFY THAT I HAVE EXAMINED THE FEMA FLOOD INSURANCE HAZARD RATE MAP PANEL NO. 05007C0255K (EFFECTIVE DATE JUNE 05, 2012) AND FOUND THE DESCRIBED PROPERTY IS LOCATED IN ZONE "X", AN AREA HAVING NO SPECIAL FLOOD HAZARD.

## INDEX OF SHEETS

COVER SHEET	C0.0
SITE & UTILITY PLAN	C1.0

## OWNER/DEVELOPER

BENTON COUNTY  
215 E. CENTRAL AVENUE  
BENTONVILLE, AR 72712  
479-271-1098

## CIVIL ENGINEER

JOSH B. BEAM, P.E.  
BENTON COUNTY CHIEF ENGINEER  
1208 SW 14TH STREET  
BENTONVILLE, AR 72712  
479-616-9736

## ARCHITECT

BURRIS ARCHITECTURE  
820 TIGER BOULEVARD, STE. 4  
BENTONVILLE, AR 72712  
479-319-6045

1"  
ONE INCH  
AT FULL SIZE  
IF NOT ONE INCH  
SCALE ACCORDINGLY

BY

DATE

REVISION

BENTON COUNTY, ARKANSAS  
OFFICE OF THE COUNTY JUDGE

215 E. Central Avenue  
Bentonville, AR 72712  
Phone: (479) 271-1000  
www.bentoncountyar.gov

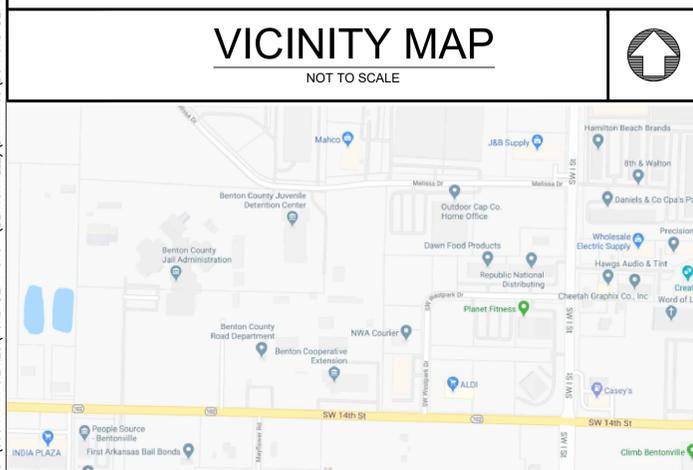


BENTON COUNTY, ARKANSAS  
BENTON COUNTY ROAD DEPARTMENT SHOP EXPANSION

COVER SHEET

## VICINITY MAP

NOT TO SCALE



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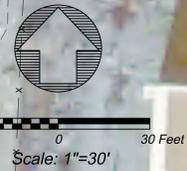
LSD 20-XXXX



DATE: JANUARY 3, 2020  
SCALE: AS SHOWN  
DESIGNED BY: J. BEAM  
DRAWN BY: J. BEAM  
BC PROJ.#: 000000

SHEET NO.  
1 OF X

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**GENERAL UTILITY NOTES:**

1. NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING UTILITY SERVICES AND MAINS. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
2. THE CONTRACTOR SHALL CALL ARKANSAS ONE CALL SYSTEM AT LEAST 48 WORKING HOURS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES.
3. ALL PUBLIC WATER AND SANITARY SEWER MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH BENTONVILLE WATER UTILITIES SPECIFICATIONS AND STATE REQUIREMENTS.
4. ALL PRIVATE WATER AND SANITARY SEWER MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL PLUMBING CODE.
5. INFORMATION CONCERNING UNDERGROUND UTILITIES IS OBTAINED FROM AVAILABLE RECORDS AND FIELD CONDITIONS WHEN POSSIBLE. BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES BY POT-HOLING. IF CONFLICTS ARE FOUND OR CLEARANCES ARE LESS THEN 18" OR OTHERWISE SHOWN ON THE PLANS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER, ENGINEER AND/OR ARCHITECT.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL NECESSARY OR REQUIRED SHEETING, SHORING, BRACING, AND SPECIAL EXCAVATION MEASURES REQUIRED ON THE PROJECT TO MEET OSHA, FEDERAL, STATE AND LOCAL REGULATIONS PURSUANT TO THE INSTALLATION OF THE WORK INDICATED ON THE DRAWINGS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY RECORD KEEPING OF THE AS-BUILT CONDITIONS OF ALL UTILITIES AND SITE WORK ASSOCIATED WITH THE PROJECT. PREPARATION OF AS-BUILT PLANS TO BE SUBMITTED TO THE CITY, AND ALL OTHER INFORMATION REQUIRED FOR RELEASE OF BONDS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS AND LABOR ASSOCIATED WITH THE TESTING AND APPROVAL OF WATER AND SEWER MAINS AS REQUIRED BY BENTONVILLE WATER UTILITIES AND THE ARKANSAS DEPARTMENT OF HEALTH.
9. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY OWNER SHALL BE PERFORMED PRIOR TO FINAL INSPECTION OF UTILITY SERVICES.
10. ALL WATER AND SANITARY SEWER TRENCHING AND BEDDING SHALL BE PER BENTONVILLE WATER UTILITIES STANDARDS AND SPECIFICATIONS.
11. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO OBTAIN ALL UTILITY EASEMENTS THAT ARE NEEDED FOR THE INSTALLATION AND MAINTENANCE OF ALL PROPOSED UTILITIES. THE EASEMENTS MUST BE OBTAINED PRIOR TO BEGINNING ANY PUBLIC UTILITY INSTALLATION.
12. CONTRACTOR SHALL REFER TO M.E.P. PLANS FOR THE ROUTE, NUMBER, AND SIZE OF ELECTRIC SERVICE CONDUCING BETWEEN TRANSFORMER PAD AND THE BUILDING, AND BETWEEN THE BUILDING AND THE OUTDOOR LIGHTING FIXTURES.
13. ALL OUTDOOR LIGHTING SHALL BE COORDINATED WITH THE UTILITY COMPANY AND M.E.P.
14. CONTRACTOR SHALL COORDINATE SIZE, ROUTE, POINT OF CONNECTION, AND INSTALLATION OF TELEPHONE SERVICE LINE, GAS SERVICE LINE, AND CABLE SERVICE LINE WITH THE RESPECTIVE UTILITY COMPANIES AND THE M.E.P. ENGINEER.
15. FOR CONTINUATION OF ALL BUILDING UTILITIES REFER TO M.E.P. PLANS.
16. ALL ELECTRIC UTILITIES SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH BENTONVILLE ELECTRIC UTILITY DEPARTMENT'S PLANS, DETAILS AND SPECIFICATIONS.
17. BENTONVILLE ELECTRIC UTILITY DEPARTMENT'S PLANS, DETAILS AND SPECIFICATIONS SHALL TAKE PRECEDENCE OVER ANY INFORMATION SHOWN ON THESE CIVIL/SITE PLANS.

**GENERAL SITE NOTES:**

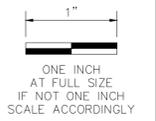
1. REMOVE ALL VEGETATION AND TOPSOIL FROM PROPOSED AREAS TO BE DISTURBED AND STORE FOR LATER USE. REGRADE AND FURNISH ADDITIONAL TOPSOIL AS REQUIRED. SEED AND STRAW ALL AREAS DISTURBED BY CONSTRUCTION UNLESS IDENTIFIED TO BE SOD.
2. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE PATTERN DURING CONSTRUCTION.
3. GENERAL CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS, GRADES, AND DIMENSIONS ON SITE AND IMMEDIATELY REPORT ALL DISCREPANCIES (IF ANY) TO THE ENGINEER AND OWNER.
4. CONTRACTOR IS RESPONSIBLE TO PROTECT ALL EXISTING ITEMS TO REMAIN. ANY DAMAGE TO SAID ITEMS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE.
5. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF BENTONVILLE REGULATIONS.
6. ALL COSTS ASSOCIATED WITH UTILITY CONNECTIONS (IF ANY) SHALL BE INCLUDED IN BASE BID. CONTRACTOR TO BE RESPONSIBLE TO COORDINATE WITH UTILITY PROVIDERS.
7. REFER TO PROJECT DETAIL SHEETS FOR ASPHALT PAVEMENT SECTION, CONCRETE PAVEMENT SECTION, AND SIDEWALK DETAILS.
8. ALL SIGNAGE, PAVEMENT MARKINGS, AND STRIPING SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS AND REGULATIONS.
9. ALL CURB/ACCESSIBLE RAMP DESIGNS SHALL CONFORM TO ADA STANDARDS OR THE CITY OF BENTONVILLE STANDARDS, WHICHEVER IS MORE RESTRICTIVE.
10. CONTRACTOR MUST OBTAIN APPROVAL FROM THE CITY OF BENTONVILLE STREET DEPARTMENT PRIOR TO ANY WORK WITHIN EXISTING PUBLIC RIGHT OF WAY.
11. SLOPE FINISH GRADES, SIDEWALKS, AND PAVING AWAY FROM BUILDING.
12. ALL MECHANICAL EQUIPMENT (ROOF AND GROUND MOUNTED) WILL BE SCREENED ON ALL SIDES BY SIMILAR MATERIALS AS THE BUILDING.
13. THERE IS NO NEW SIGNAGE BEING PROPOSED. ANY NEW SIGNAGE WILL REQUIRE A SEPARATE SIGN PERMIT.
14. THERE ARE NO NEW FENCES BEING PROPOSED. ANY NEW FENCE WILL REQUIRE A SEPARATE FENCE PERMIT.

**SITE INFORMATION:**

PARCEL # 01-16721-000  
 ADDRESS: 1208 SW 14TH STREET  
 BENTONVILLE, AR 72712  
 AREA: 51.78 ACRES  
 ZONE: A-1

**SITE PREPARATION NOTES:**

1. ALL SITE PREPARATION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS LISTED IN THE SOILS REPORT FOR THIS PROJECT. COPIES OF THE SOILS REPORT HAVE BEEN MADE AVAILABLE TO THE CONTRACTOR FOR REFERENCE.
2. THE BUILDING FOOTPRINT SHALL BE EXCAVATED TO REMOVE THE LAYER OF LOW-SHEAR-STRENGTH SOILS AS ENCOUNTERED IN THE SOIL BORES.
3. EXCAVATED AREA SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO BEGINNING BACKFILL FOR BUILDING PAD OR CONSTRUCTION OF SHALLOW FOUNDATION.
4. UNDERCUT DEPTHS OF 4 TO 5 FEET ARE ANTICIPATED WITHIN THE BUILDING FOOTPRINT.



BY	DATE	REVISION

BENTON COUNTY, ARKANSAS  
 OFFICE OF THE COUNTY JUDGE  
 215 E. Central Avenue  
 Bentonville, AR 72712  
 Phone: (479) 271-1000  
 www.bentoncountyar.gov



BENTON COUNTY, ARKANSAS  
 BENTON COUNTY ROAD DEPARTMENT SHOP EXPANSION  
 SITE & UTILITY PLAN



DATE: JANUARY 3, 2020  
 SCALE: 1" = 30'  
 DESIGNED BY: J. BEAM  
 DRAWN BY: J. BEAM  
 BC PROJ.#: 000000

SHEET NO.  
 X OF X

# Geotechnical Engineering Report

## Planned New Shop Expansion

1208 SW 14<sup>th</sup> Street  
Bentonville, Arkansas  
GTS Project No. 19-1-2-233

December 11, 2019



*Prepared For:*

## Benton County, Arkansas

215 East Central Avenue  
Bentonville, Arkansas 72712



[www.gtsc consulting.net](http://www.gtsc consulting.net)

1915 North Shiloh Drive, Suite 1  
Fayetteville, Arkansas 72704  
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December 11, 2019

Benton County, Arkansas  
215 East Central Avenue  
Bentonville, Arkansas 72712

Attention: Mr. Bryan Beeson

RE: Geotechnical Engineering Report  
Planned New Shop Building Expansion  
1208 SW 14<sup>th</sup> Street  
Bentonville, Arkansas  
GTS Project No. 19-1-5-233

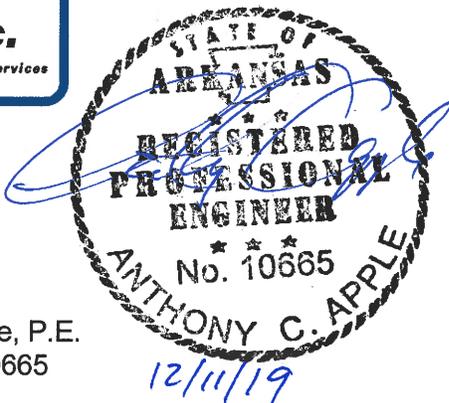
Mr. Beeson:

This report provides the results of the subsurface exploration, laboratory testing and geotechnical engineering analysis performed for a planned new shop building expansion for the Benton County Road Department. The project site is nominally located at 1208 SW 14th Street in Bentonville, Arkansas. The approximate boundaries of the project site are shown in Figure 1 within this report.

We appreciate the opportunity to be of assistance to you on this project. We encourage retaining GTS, Inc. to be involved in pre-bid and pre-construction meetings to allow GTS, Inc. to discuss the following findings and recommendations.

Please contact us if further explanation or clarification is required for portions of the report.

Sincerely,



Anthony C. Apple, P.E.  
Arkansas No. 10665

Andrew N. Beekman, P.E.  
Project Engineer

ACA:ANB

Copies: Addressee ([Bryan.Beeson@bentoncountyar.gov](mailto:Bryan.Beeson@bentoncountyar.gov))



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Boring Location Diagram

Boring Logs

### B

Laboratory Data

## EXECUTIVE SUMMARY

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This report uses the terms “existing grade” and “finished subgrade”. Existing grade describes the site elevations at the time of our field drilling and sampling. “Finished subgrade” is used in this report to describe the future design elevation of the soil in the building area.

Based on the soil types and in-place shear strength encountered at the two (2) sample borings performed at the project site by GTS, Inc. and our current understanding of the site development plans, summary geotechnical engineering considerations for development of the project site are provided below. The below information should not be used separately from the more comprehensive discussion provided in the body of this report.

### Subsurface Conditions

Existing fill was encountered below the surface pavement section and crushed gravel at the two boring locations. The fill consisted predominantly of lean clays with variable amounts of sand and gravel and sand with variable amounts of gravel. The fill extended to depths of about 2 to 4¼ feet below existing grades, where encountered. The existing fill material had low to moderate shear strength at the time of drilling and sampling.

Lean and fat clay soils with variable amounts of sand were encountered immediately below the existing fill materials at both boring locations. The clay soils had low to moderate shear strength at the time of drilling and sampling.

Sandstone was encountered at depths of about 5¼ to 6 feet below the existing ground surface at the boring locations and extended to depths of about 11½ to 13 feet below existing grades. Limestone was encountered immediately below the sandstone and extended to the terminal depth of both boring locations. The sandstone and limestone had moderate to high, yet generally high, shear strength during drilling and sampling.

Hard drilling conditions were encountered in the sandstone at a depth of about 5½ to 6 feet below existing grades. Auger refusal material was encountered on the hard limestone at both boring locations at depths of about 11½ to 13 feet below the existing ground surface.

### Geotechnical Considerations

Low-shear-strength soils were encountered within the existing fill and the upper portions of the native lean clays at both boring locations. The low-shear-strength soils encountered at these boring locations extended to depths of about 4 to 5 feet below the existing ground surface.

GTS, Inc. has no information regarding the placement and compaction history of the existing fill material. There is a potential risk of unpredictable settlement and performance by supporting foundations and floor slabs-on-grade above the existing fill. Based on the results of the sample borings, this risk appears to be moderate to high at this project site. This risk cannot be eliminated unless the existing fill is removed and replaced full-depth with new select

fill, but the risk can be reduced by supporting all foundations below the existing fill material on suitable native soils. These risks can also be reduced for the floor slab by supporting the new floor slab-on-grade on a volume of new, approved fill material and by thoroughly testing and evaluating the subgrade.

Recommendations are provided in this report to reduce the risks associated with supporting new structures above the existing fill while also reducing the amount of removal and replacement necessary for supporting the planned new development.

## Foundation Recommendations

The planned addition may be supported on a shallow foundation system bearing directly on tested and approved, native, relatively undisturbed, stiff clays, medium dense clayey sands, and on new, tested and approved, select fill material placed and compacted over stable recommended native soils. Based on the results of our sample borings, the recommended bearing materials are anticipated to be within about 4 to 5 feet below existing grades throughout the building footprint.

Foundations supported on the described soils may be designed using net allowable bearing capacities of 2,000 pounds per square foot (psf) and 2,500 psf for continuous and individual, column foundations, respectively.

## Seismic Site Classification

The subsurface conditions at this project site are anticipated to be consistent with a Site Class C per the International Building Code (IBC), 2012 Edition.

## Floor Slab-on-Grade Support

We recommend the planned concrete floor slabs-on-grade be supported on a minimum of 1 foot of select fill material, placed and compacted above stable on-site soils or newly placed, tested and approved fill materials.

## Re-Use of On-Site Soils as Fill

Portions of the on-site existing fill materials are generally anticipated to be suitable to be reused as general fill or select fill, provided the existing fill is thoroughly evaluated and determined to be free of deleterious material. Imported select fill is anticipated to be required to construct the recommended select fill layer. On-site lean clay soils are anticipated to be suitable for reuse as general fill.

All soils proposed for use as fill by the contractor should be sampled by GTS, Inc. during mass grading and laboratory tested to confirm the apparent classification of these soils prior to reuse. All rock will need to be crushed into pieces no greater than 3 inches in any dimension prior to reuse.

## PROJECT DESCRIPTION and INFORMATION

### Project Site

The project site is nominally located at 1208 SW 14<sup>th</sup> Street in Bentonville, Arkansas. The project site is currently occupied by the Benton County Road Department facility. At the time of our field exploration, the project site was generally flat, gently sloping down toward the west. The surface for the planned addition consisted of gravel and concrete and asphalt pavement.

The general boundaries of the project site are shown in yellow in Figure 1 below. Figure 1 is a satellite image obtained from the Benton County Geographic Information System (GIS) website.<sup>1</sup>



Figure 1: General Boundaries of the Project Site

### Planned Development

The project consists of constructing an addition to the existing shop building. The addition is planned to have an overall footprint area of about 4,800 square feet and have a height of one story. We anticipate the structure will consist of structural steel framing and metal panel exterior with concrete slab-on-grade.

<sup>1</sup> <https://gis.bentoncountyar.gov/basemap/index.html>, accessed December 9, 2019



## **Planned Site Grading**

Specific site grading plans were not provided to GTS, Inc. for this development. However, for the purposes of this report, GTS, Inc. anticipates future grades will generally match existing grades.

## SUMMARY of SUBSURFACE FINDINGS

---

### Surface

The ground surface at the boring locations consisted of gravel and concrete pavement at the time of field sampling. Approximately 10 inches of concrete pavement overlying 2 inches of crushed gravel was encountered at the surface of Boring B-1. Approximately 2 inches of crushed gravel was encountered at the surface of Boring B-2.

Photographs showing typical surface conditions at the project site at the time of drilling and sampling are provided below and on the following page.



Photograph 1 - Looking East toward Boring B-1



Photograph 2 - Looking West toward Boring B-2

## Subsurface Soils

### Existing Fill

Existing fill was encountered below the surface pavement section and crushed gravel at both boring locations. The fill consisted predominantly of lean clays with variable amounts of sand and gravel and sand with variable amounts of gravel. The fill extended to depths of about 2 to 4¼ feet below existing grades, where encountered.

The existing fill material had low to moderate shear strength at the time of drilling and sampling. Standard penetration test (SPT) N-values of 4 to 27 blows per foot (bpf) were recorded for the existing fill.

### Stratum I – Clays and Sands

Low plasticity (lean) and high plasticity (fat) clay soils with variable amounts of sand were encountered immediately below the existing fill materials at both boring locations. A thin layer of clayey sand was encountered immediately below the clay soils at Boring B-2, only. These soils extended to depths of about 5 ¼ to 6 feet below the existing ground surface, where encountered.

The clay and sand soils had low to moderate shear strength at the time of drilling and sampling. N-values of 3 to 10 bpf were recorded for the clay soils.

### Stratum II – Sandstone and Limestone

Sandstone was encountered immediately below the Stratum I clay and Stratum II sand soils at depths of about 5¼ to 6 feet below existing grades at the boring locations and extended to depths of about 11½ to 13 feet below existing grades. Limestone was encountered immediately below the sandstone and extended to the terminal depth of both boring locations.

The Stratum III sandstone and limestone had moderate to high shear strength during drilling and sampling. N-values of 68 bpf to 50 blows per 1 inch of penetration were recorded for these materials.

### **Hard Drilling Conditions/Auger Refusal**

Hard drilling conditions were encountered in the Stratum III moderately to well cemented sandstone at a depth of about 5½ to 6 feet below existing grades. Auger refusal material was encountered on the hard limestone at both boring locations at depths of about 11½ to 13 feet below the existing ground surface.



## Water Measurements

Water observations were made by the drill crew during drilling and at completion of drilling. Groundwater was not encountered at either boring location during drilling and sampling. Groundwater was observed at a depth of about 11½ feet in Boring B-1, only, at completion of drilling and sampling. The borings were backfilled upon completion of drilling and further groundwater observations were not possible. The water observations made by the drilling crew are at the bottom of each boring log.

The boring cave-in depths noted on the boring logs represent a loss of soil shear strength in the sides of the boring. This may be associated with the presence of perched groundwater and the cave-in depths may correlate to the surface of perched water. Cave-in depths between about 9 and 11½ feet below existing grades were recorded at the boring locations.

The depths to water are intended as isolated measurements of groundwater levels at the time of drilling. The installation and periodic measurement of monitoring wells would be required to establish seasonal piezometric surfaces below the project site.

## GEOTECHNICAL ENGINEERING ANALYSIS

---

### Geotechnical Considerations

#### Existing Fill

Existing fill material was encountered immediately below the concrete pavement surface and crushed gravels at both boring locations. The fill consisted predominantly of lean clays with variable amounts of sand and gravel and sand with variable amounts of gravel. The fill extended to depths of about 2 to 4¼ feet below existing grades, where encountered. The existing fill material had low to moderate shear strength at the performed boring locations.

GTS, Inc. has no information regarding the placement and compaction history of the existing fill material throughout the project site. Compressible fill and/or deleterious and unsuitable materials might be buried within or by the existing fill. There is a potential risk of unpredictable settlement and performance by supporting foundations and floor slabs-on-grade above the existing fill. Based on the results of the sample borings, this risk appears to be moderate to high at this project site.

The risk of unpredictable settlement and performance of foundations and floor slabs cannot be eliminated without completely removing and replacing the existing fill with new fill, but the risk can be reduced by partially removing and replacing the existing fill with new fill and performing thorough testing and evaluation of the existing fill as recommended in this report. Recommendations are provided in this report to reduce the risks associated with supporting new structures above the existing fill while also reducing the amount of removal and replacement necessary for supporting the planned new addition.

#### Low-Shear-Strength Soils

Low-shear-strength soils were encountered within the existing fill materials and the upper portion of the underlying lean clays at both boring locations. The low-shear strength soils extended to depths of about 4 to 5 feet below the existing ground surface. The fill materials and the near-surface lean clays are susceptible to strength loss with increases in moisture content and/or when exposed to repetitive construction traffic.

In their present condition, the weak soils are not suitable for supporting typical loading from foundations, floor slabs-on-grade or new fills without removal and replacement or ground improvement. Due to these anticipated conditions of the on-site soils, ground improvement may be required in the majority of the site. Ground improvement recommendations are provided in the Mass Grading Recommendations section of this report.



## Foundation Recommendations

The planned addition may be supported on a shallow foundation system. The foundations should bear on tested and approved, native, relatively undisturbed, stiff clays, medium dense clayey sands, and on new, tested and approved, select fill material placed and compacted over stable recommended native soils.

Based on the results of our sample borings, weak soils and/or existing fill may intermittently be present to depths of about 4 to 5 feet below existing grades throughout the building footprint. If weak or unsuitable native soils, existing fill or newly placed fill materials are exposed at plan bottom of foundation elevations, foundation trench over-excavations should extend through the weak soils and fill materials, where encountered, to expose the recommended bearing soils.

Shallow foundations for the planned building structure may be designed using the information provided in Table 1, below.

**Table 1: Shallow Foundation Recommendations**

Net Allowable Bearing Capacity (psf)	Bearing Soil Description	Depth to Bearing Soils
2,000 (continuous)	Native, Tested and Approved Clays and Sands (Stratum I), or New, Tested and Approved <u>Select</u> Fill Material *	Generally Anticipated at 4 to 5 Feet Below Existing Grades
2,500 (square/round, column)		

\* The recommended bearing soils should be relatively undisturbed and have moderate shear strength. Foundations may also be supported on flowable fill placed and compacted above the recommended bearing material.

Total long-term and differential movement of shallow foundations, designed and constructed as recommended in this report and per the Mass Grading Recommendations section of this report, is estimated to be less than 1 inch (total) and ½ inch in 50 feet (differential).

## Foundation Construction Recommendations

### General Dimensions

Continuous formed and isolated column foundations should have minimum widths of 18 inches and 30 inches, respectively. A minimum foundation depth of 18 inches below lowest adjoining final grades should be used to protect against frost heave and seasonal variations in moisture content.



### Allowable Backfill Materials

Flowable fill (i.e., “lean concrete”) may be used to backfill foundation over-excavations where required to reach suitable bearing soils in the building footprint. Specifications regarding these materials are shown in the Geotechnical Report Requirements and Specifications section of this report.

### Evaluation of Supporting Material and Over-excavation Recommendations

Foundation excavations should be cleaned of loose soils, debris and water. Soils exposed at plan bearing depths should be evaluated by GTS, Inc. prior to placement of approved fill, reinforcing bar and concrete.

Where weak or unsuitable soils, existing fill or newly placed fill materials are exposed at plan bottom of foundation elevations, foundation trench overexcavation should be performed to expose the recommended native bearing soils.

If flowable fill is used to backfill foundation trenches, the flowable fill should be placed as soon as possible after foundation trench over-excavations are completed and have been evaluated for bearing suitability. Flowable fill should be field sampled and laboratory tested for strength every day of placement.

### **Stress and Bearing Interactions with Existing Building Foundations**

As-built information has not been provided to GTS, Inc. regarding the existing building’s foundation type and foundation bearing depth. GTS, Inc. assumes the existing building is supported on a shallow foundation system bearing within 3 feet below existing top of adjoining ground elevations.

Care should be taken during any excavation adjacent to existing foundations to not disturb any existing foundation bearing materials. It is recommended, where possible, excavations below existing footings not extend below an imaginary plane extending out and down from outside edge of existing footings at a slope of approximately 2 horizontal to 1 vertical (2H:1V). Even with these criteria, excavations extending below the level of the existing foundations should be backfilled the same day they are excavated. Where this is impractical, shoring or underpinning of existing foundations may be required.

Some overlap in stress distribution from new and existing footings may occur, which may cause minor movement of the existing footings and supported structures. Maintaining a clear distance at least equal to the width of the new column spread footings between the edges of the new and existing footings could significantly reduce this risk. Connections between the new and existing structures should be designed to allow for the anticipated differential movement.

## Floor Slab Support Recommendations

New floor slab-on-grade should be supported on a minimum of 1 foot of tested and approved, select fill material, placed and compacted above stable on-site soils. The recommended 1-foot thick layer of fill does not include the “subbase” layer.

Risks associated with supporting floor slabs above the existing fill are discussed in the beginning of the Geotechnical Considerations section of this report. Specific recommendations concerning construction of the floor slab subgrade, including the potential need for additional select fill to stabilize unstable subgrade soils, are provided in the Mass Grading Recommendations section of this report.

## Floor Slab-On-Grade Design

Concrete floor slabs constructed as slab-on-grade and supported on subgrade prepared as recommended in this report can be designed using a modulus of subgrade reaction (k) value of 100 pounds per square inch, per inch.

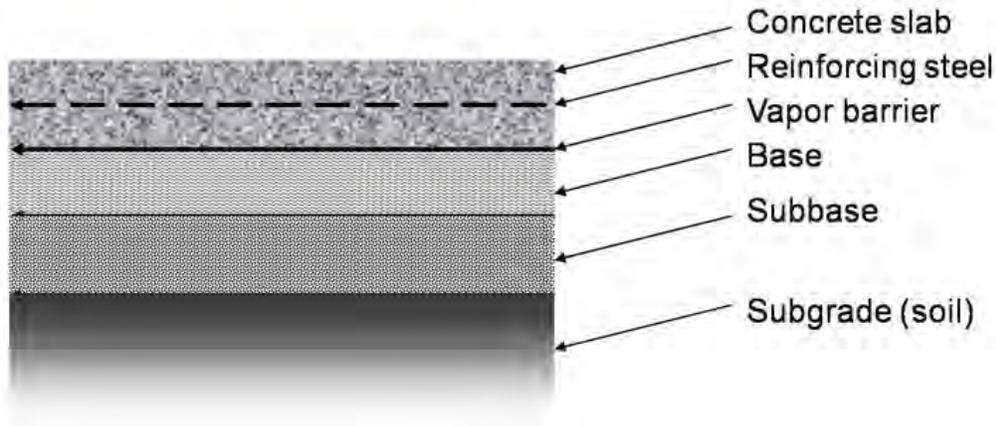
We recommend a minimum of 4 inches of free-draining gravel or sand be placed beneath the slab-on-grade to act as a capillary break. These layers are termed a “subbase” layer.

To be effective as a capillary break, the subbase should have a maximum of 5 percent by dry weight passing the No. 200 sieve. The modulus of subgrade reaction value applies to the top of the subbase layer. The top of the subbase should be compacted using a vibratory plate.

If rutting of the subbase layer is a concern for concrete placement, the subbase layer may be topped with an additional 2 to 4 inches of gravel or sand having sufficient fines to allow compaction. The optional topping layer is termed the “base” layer. The base layer, if used, should be compacted to a minimum of 95 percent Standard Proctor Value (ASTM D 698) at a workable moisture content that allows the density to be achieved. The base layer should have a percent passing the No. 100 sieve ranging from 10 to 30 percent by dry weight. ARDOT Class 7 Aggregate Base Course material is acceptable to use in the base layer.

A vapor barrier having a minimum thickness of 10 mil is recommended immediately below the concrete unless otherwise recommended by the finished flooring manufacturer or other members of the design team.

The general components of a floor slab, inclusive of the optional base course, are shown in Figure 2 on the following page. The shown reinforcing steel location provides general guidance only. The location and composition of reinforcing steel should be determined by a structural engineer.



**Figure 2: General Floor Slab-on-Grade Section Detail**

### **IBC Site Classification**

The subsurface conditions at this project site are anticipated to be consistent with a Site Class C per the International Building Code (IBC), 2012 Edition.

## MASS GRADING RECOMMENDATIONS

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### Removal of Surface Pavements

Mass grading should extend a minimum of 5 feet outside of the addition footprint in all directions, where practical.

Existing concrete, asphalt and crushed gravel should be removed from the planned building area. Excavations resulting from the removal of these materials should be backfilled as recommended in this report. The removed gravel, asphalt and concrete may be stockpiled and reused as fill material, at the discretion of the design team.

### Evaluation of Existing Fill

If the client chooses to construct floor slabs above the existing fill, exposed existing fill material should be evaluated for the presence of deleterious materials during mass grading and excavation. Portions of the existing fill material containing deleterious material should be removed full-depth from areas of new construction. GTS, Inc. may evaluate the existing fill material at the project site and provide additional recommendations during mass grading.

### General Mass Grading

After removal of the pavements and surface crushed gravel, further undercuts should be performed, as necessary, to reach a minimum depth of 1 foot below plan finished subgrade elevations.

After the recommended undercut depths are completed, the exposed soils should be evaluated for stability by GTS, Inc. The exposed soils should be evaluated for stability by observing overlapping passes with a loaded tandem-axle dump truck (i.e., proofrolling) weighing at least 25 tons. If the exposed soils are stable during proofrolling, they are suitable to support the placement and compaction of tested and approved, new fill material up to plan finished subgrade elevations.

Based on the subsurface conditions encountered during drilling and sampling, proofrolling might be impractical in portions of the project site. In this case, GTS, Inc. should probe the soils to evaluate the extent of the low-strength soils, or test pits could be excavated at select locations.

If the exposed soils are unstable, further undercuts may be performed to reach stable soils. Potential instabilities when on-site soils at the undercut depth are moist to wet are considered in the Weather and Instability Related Considerations report section.

## Weather and Instability Related Considerations

Soil instability is directly related to the moisture within and below the exposed materials. If the existing fill materials, native on-site soils or newly, placed fill are moist to wet, or have undergone freeze-thaw cycles after mass grading and/or placement and compaction, we anticipate the surface portion of the soils may be unstable.

If the exposed soils are unstable, they may be scarified, allowed to dry, and recompacted to achieve stability if the construction timeframe and prevailing weather conditions allow. Alternatively, further undercuts may be performed to expose stable soils. For budgeting purposes, we anticipate average undercut depths of about 3 feet below existing grades may be required to reach stable soils if the on-site soils are moist to wet and unstable during mass grading.

Bridging lifts may be considered to stabilize the soils if they remain unstable at a depth of 3 feet below planned finished subgrade elevations. The top of all bridging lifts should be 1 foot or more below plan finished subgrade elevations. The top 8 inches of the bridging lifts should be compacted to project specifications. The thickness of the bridging lift will depend on site conditions at the time of site grading and should be evaluated and recommended by the GTS, Inc. If bridging lifts are used to stabilize the site, all foundation trenches should be overexcavated to penetrate the bridging lift.

## Fill Placement

Lifts of fill material required to reach plan finish subgrade elevations should be composed of tested and approved fill material and placed per the specifications shown in this report. Fill should be placed in near-horizontal lifts beginning in areas requiring the deepest amount of fill. The fill should be benched into the native soils each lift, where practicable. Fill should not be placed on frozen, saturated or unstable soils.

We recommend the fill material placed within the top 1 foot of the building pad subgrade consist of select fill material. Bridging lift materials should consist of select fill, only. We recommend the foundation trench backfill material consist of flowable fill. The requirements for general fill material, select fill material and flowable fill material are provided in the Geotechnical Report Requirements and Specifications section of this report.

## Utility Trench Backfill

All trench excavations should be made with working space sufficient to permit construction including backfill placement and compaction. Utility trenches are a common source of water infiltration and migration. If utility trenches are backfilled with relatively clean granular material, they should be capped with at least 18 inches of cohesive fill to reduce the infiltration and conveyance of surface water through the trench backfill.



## Re-Use of On-Site Soils as Fill

The predominantly granular portions of the on-site existing fill materials are generally anticipated to be suitable to be reused as select fill. The predominantly clay portions of the on-site existing fill are anticipated to be suitable to be reused as general fill.

The native lean clay (portion of Stratum I) soils are anticipated to be suitable for reuse as general fill material.

The existing fill should be thoroughly tested and evaluated by GTS, Inc. for suitability through laboratory testing and determined to be free of deleterious material. Both existing fill materials and native clay materials suitable for reuse as fill materials for this site may require extensive drying before they are suitable for reuse as new fill material.

Imported select fill is anticipated to be required to construct the recommended select fill layer beneath the planned building.

All rock will need to be crushed into pieces no greater than 3 inches in any dimension prior to reuse.

We recommend all on-site soils to be reused as fill and all imported fill soils be thoroughly tested and evaluated by GTS, Inc before reuse.

## Rock Excavation Potential

Rock excavation means and methods may be required for confined excavations intermittently throughout this project site beginning at depths of about 5½ to 6 feet below the existing ground surface elevation to penetrate the moderately well cemented sandstone.



## GEOTECHNICAL REPORT REQUIREMENTS and SPECIFICATIONS

Unless otherwise stated, the recommendations contained in this report are based on the compaction specifications and material types noted in Table 2, Table 3 and paragraphs on this and the following page.

**Table 2: Recommended Soil Compaction**

Type of Material	Moisture-Density Specification	Minimum Dry Density (percentage of proctor)	Range from Optimum Moisture Content (%)
Soil Fill Material	ASTM D-698 (Standard Proctor)	98	-3 to +3
Flowable Fill Material	AHTD Section 206	Not applicable	

**Table 3: Soil Fill Material Requirements**

Type of Soil Fill	Location/Use	Maximum LL	Maximum PI	USCS Classifications
Select	All Areas	40 <sup>A</sup>	18 <sup>A</sup>	GM, GC, GW, GP, SP, SC, Chert
General	Areas 2 Feet below Building Subgrade <u>May not</u> be used as foundation trench backfill material	45 <sup>B</sup>	20 <sup>B</sup>	GM, GC, GP, GW, SP, SC, CL, Chert

<sup>A</sup> Plasticity requirements may be waived provided the fill has a minimum of 65% retained on the No. 200 sieve.

<sup>B</sup> Plasticity requirements may be waived if the fill has a minimum of 50% retained on the No. 200 sieve.

Fill material should have a maximum nominal aggregate size of 3 inches or less after placement and compaction. If there are questions regarding the effectiveness of compaction equipment breaking down the material, a test pad should be constructed using the rock fill material, observed by GTS, Inc. during compaction, and a gradation performed on a sample of the compacted material.

Fill needed for site grading should be placed in loose lifts not exceeding 9 inches in thickness (compacted lift thickness of approximately 6 to 7 inches). We recommend every lift of fill be tested for density during mass grading, with a minimum of one test every 2,500 square feet of building area.



Flowable fill, if used to backfill foundation trench over-excavations, should have a minimum compressive strength of 400 pounds per square inch (psi) and should be tested for in-place strength each day of placement.

The recommended moisture content and compaction of the fill should be maintained until fills are completed and the floor slab is constructed.

Design and construction plans should provide for rapid, positive drainage away from the building area both during construction and at completion of the project.



## **SUBSURFACE EXPLORATION and PROCEDURES**

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The subsurface exploration consisted of evaluating and sampling two (2) sample boring locations to planned depths of 20 feet below existing grade or to auger refusal depths, whichever was least.

The boring locations were established in the field by GTS, Inc., and the approximate locations are shown on the attached Boring Location Diagram. The results of the borings are attached to this report.

The borings were drilled with a Simco 2800, truck-mounted drill rig. Disturbed samples and estimates of the in-situ shear strengths of the soil were obtained using an automatic-hammer-driven split-barrel sampler in general accordance with the SPT procedure at the boring locations.

The soil samples obtained in the field were sealed to reduce moisture loss and taken to the GTS, Inc. soil laboratory for further examination, testing, and classification. The results of laboratory tests on select samples are shown on the boring logs and are attached to this report.

Field logs were prepared during the drilling and sampling of the borings. These logs report sampling methods, sampling intervals, soil and groundwater conditions, and notes regarding soil and drilling conditions observed between sample depths. The final boring logs, included in this report, have been prepared based on the field logs and have been modified, where appropriate, based on the results of the laboratory observation.



## LABORATORY TESTING and PROCEDURES

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The soil samples were examined in the laboratory by an experienced geotechnical engineer and classified based on the soil's texture and plasticity, in accordance with the Unified Soil Classification System. The estimated Unified Soil Classification System group symbols are shown on the boring logs.

Hand penetrometer tests were performed on select intact cohesive samples. Unfactored hand penetrometer test values are shown on the boring logs as filled squares.

The laboratory testing was performed by GTS, Inc. in general accordance with the American Society for Testing and Materials (ASTM) test designations shown in the Table 4, below.

**Table 4: Laboratory Test Method Designations**

Laboratory Test	Test Designation	Method (if applicable)
Moisture Content of Soil and Rock	ASTM D 2216-10	Method A
Visual Classification of Soil Types	ASTM D 2488	
Sieve Analysis	ASTM D 6913	Method A
Atterberg Limits	ASTM D 4318	Method A
USCS Classification	ASTM D 2487	

## GEOTECHNICAL REPORT LIMITATIONS

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The recommendations contained in this report are based on our interpretation of subsurface conditions encountered at the discrete boring locations. Variations between the subsurface conditions anticipated in this report and actual project site conditions may occur away from the boring locations.

If significant differences between the findings of the borings and site conditions are observed, GTS, Inc. should be contacted to assess the variation and, if necessary, reevaluate the recommendations contained in this report.

## ENVIRONMENTAL EXCLUSION

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A Geotechnical Engineering report assesses the engineering properties of soil and rock. No environmental assessment of a project site is performed during a geotechnical exploration. If the owner is concerned about the potential for environmental hazards at the project site, additional studies should be performed by GTS, Inc.



## APPENDIX A

Boring Location Diagram

Boring Logs

**Benton County, Arkansas**

Planned New Shop Building Expansion

1300 SW 14<sup>th</sup> Street, Bentonville, Arkansas

GTS Project No. 19-1-5-233



**Boring Location Diagram**

 = Approximate Boring Location

# LOG OF BORING NO.B-1

Planned New Shop Building Expansion  
1208 SW 14th Street, Bentonville, Arkansas



Project No.: 19-1-5-233 Location: See Attached Boring Location Diagram

DEPTH, FT	SYMBOL	SAMPLES	SAMPLE No.	RECOVERY (in.)	DESCRIPTION OF MATERIAL	USCS	%<#200	HAND PENETROMETER, TSF ■				BLOWS PER FT
								LAB. COHESION, TSF ▲				
								0.4 0.8 1.2 1.6				
								WATER CONTENT, % ●				
								PL ————— LL				
								20 40 60 80				
0					Surface Description = Concrete CONCRETE = 10 INCHES							
					CRUSHED GRAVEL = 2 INCHES							
2.5				8	FILL - predominantly sandy lean clay, stiff, dark gray, moist - soft, brown, moist to wet below 2 feet	FILL						11
				8	- soft, predominantly sandy lean clay with gravel, light gray and dark gray, with sandstone fragments, moist to wet below 2¾ feet							4
5				12	LEAN CLAY, with sand soft, light gray, brown and red, moist	CL	82					7
				10	FAT CLAY, with sand stiff, red, light gray and yellow	CH						
7.5					SANDSTONE poorly to well cemented, yellow, red and light gray							33/6" 50/3"
10				16								44/6" 50/5"
12.5					- cave-in at 11½ feet at completion of drilling							
15				1	AUGER REFUSAL AT 13 FEET LIMESTONE hard, well cemented, light gray BOTTOM OF BORING AT 13 FEET 1 INCH							50/1"
17.5												

COMPLETION DEPTH: 13.08 ft.

DEPTH TO WATER: DURING DRILLING: Dry

DATE: 12/5/19

AT COMPLETION: 11.5 ft.

RIG: Simco 2800, Truck Mounted, Auto Hammer-Assisted

AT 24 HOURS: Backfilled

# LOG OF BORING NO.B-2

Planned New Shop Building Expansion  
1208 SW 14th Street, Bentonville, Arkansas



Project No.: 19-1-5-233

Location: See Attached Boring Location Diagram

DEPTH, FT	SYMBOL	SAMPLES	SAMPLE No.	RECOVERY (in.)	DESCRIPTION OF MATERIAL	USCS	%<#200	HAND PENETROMETER, TSF ■				BLOWS PER FT
								LAB. COHESION, TSF ▲				
								0.4	0.8	1.2	1.6	
								WATER CONTENT, % ●				
								PL	LL			
								20	40	60	80	
0					Surface Description = Crushed Gravel							
					<b>CRUSHED GRAVEL = 2 INCHES</b>							
				14	FILL - predominantly clayey sand with gravel very dense, brown, with chert fragments	FILL	23	●				27
2.5				6	LEAN CLAY, with sand soft, light gray, orange and yellow, moist to wet	CL			●			3
				18	- stiff and moist below 4 feet		78		●	├───┘		
5				12	CLAYEY SAND medium dense, orange and yellow	SC			●			68
					SANDSTONE poorly to moderately well cemented, yellow, orange and light gray				●			
7.5				16	- cave-in at 9 feet at completion of drilling - well cemented below 9½ feet							23/6" 50/5"
10				1	AUGER REFUSAL AT 11½ FEET							50/1"
12.5					LIMESTONE hard, well cemented, light gray							
					BOTTOM OF BORING AT 11 FEET 7 INCHES							
15												
17.5												

COMPLETION DEPTH: 11.58 ft.

DEPTH TO WATER: DURING DRILLING: Dry

DATE: 12/4/19

AT COMPLETION: Dry

RIG: Simco 2800, Truck Mounted, Auto Hammer-Assisted

AT 24 HOURS: Backfilled



## APPENDIX B

### Laboratory Data

**PROJECT:** Planned New Shop Building Expansion

**DATE:** 12/6/2019

**JOB NO:** 19-1-5-233

**BORING NO.** B-1

**SAMPLE NO.** S-3

**DEPTH (FT)** 3.75' - 4.5'

**PLASTIC LIMIT** 22

**LIQUID LIMIT** 36

**PLASTICITY INDEX** 14

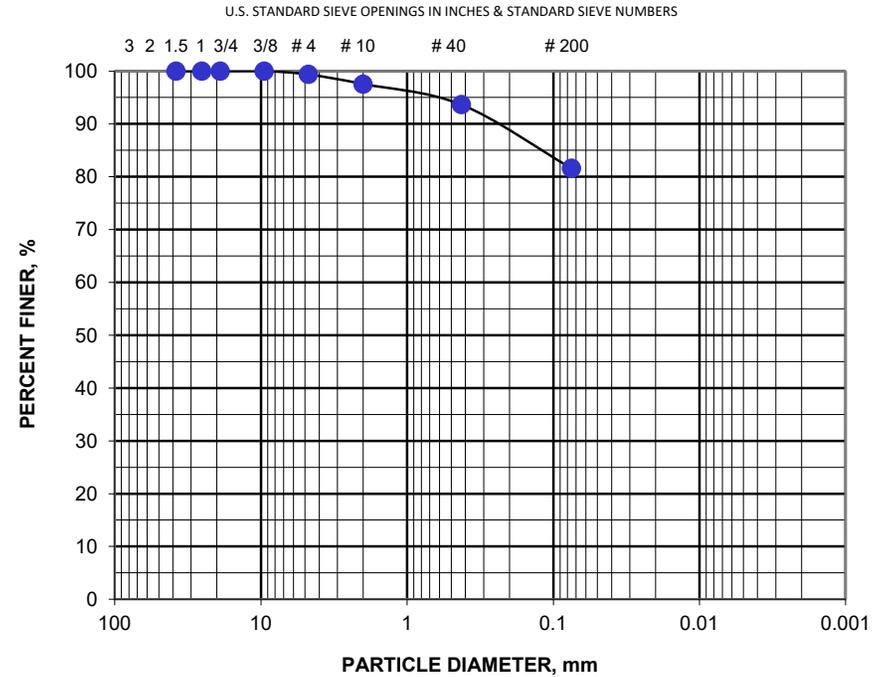
SIEVE SIZE	PERCENT PASSING
3.00"	100.0%
1.50"	100.0%
1.00"	100.0%
3/4"	100.0%
3/8"	100.0%
No. 4	99.4%
No. 10	97.6%
No. 40	93.7%
No. 200	81.6%

**MOISTURE CONTENT (%)** 19.9

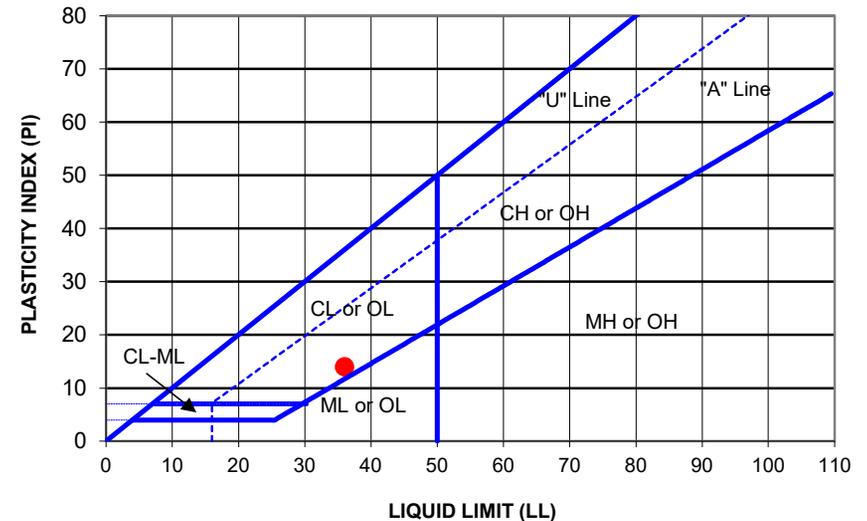
**VISUAL DESCRIPTION** light gray, brown and red

ASTM DESCRIPTION	AASHTO CLASSIFICATION	AASHTO GI
Lean Clay with Sand, CL	A-6	11

**GRAIN SIZE DISTRIBUTION CURVE**



**PLASTICITY CHART**



# GTS, Inc.

Geotechnical & Testing Services

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### Office Locations

Fayetteville, Arkansas  
Fort Smith, Arkansas  
Tulsa, Oklahoma  
Dallas, Texas

**PROJECT:** Planned New Shop  
Building Expansion

**DATE:** 12/6/2019

**JOB NO:** 19-1-5-233

**BORING NO.** B-2

**SAMPLE NO.** S-3

**DEPTH (FT)** 3.75' - 5.0'

**PLASTIC LIMIT** 22

**LIQUID LIMIT** 39

**PLASTICITY INDEX** 17

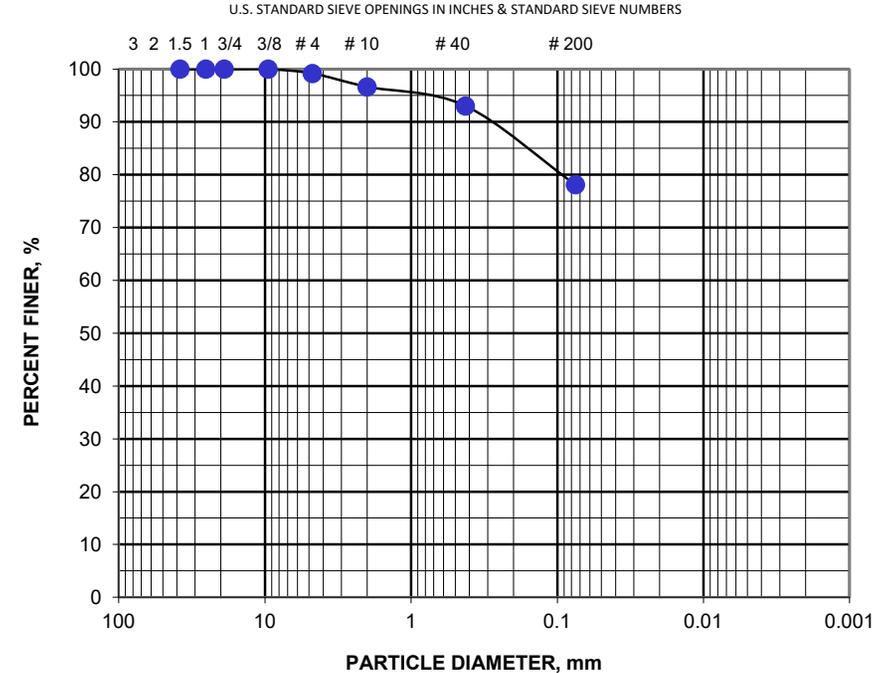
SIEVE SIZE	PERCENT PASSING
3.00"	100.0%
1.50"	100.0%
1.00"	100.0%
3/4"	100.0%
3/8"	100.0%
No. 4	99.2%
No. 10	96.7%
No. 40	93.0%
No. 200	78.1%

**MOISTURE CONTENT (%)** 21.6

**VISUAL DESCRIPTION** orange, light gray and yellow

ASTM DESCRIPTION	AASHTO CLASSIFICATION	AASHTO GI
Lean Clay with Sand, CL	A-6	13

## GRAIN SIZE DISTRIBUTION CURVE



## PLASTICITY CHART

